



COUNTY COUNCIL OF NORTHUMBERLAND.

ANNUAL REPORT

OF THE

MEDICAL OFFICER OF HEALTH

For the Year 1906,

WITH SUMMARY OF REPORTS OF DISTRICT

MEDICAL OFFICERS OF HEALTH AND

STATISTICAL INFORMATION.



Digitized by the Internet Archive
in 2018 with funding from
Wellcome Library

<https://archive.org/details/b29920449>

CONTENTS.

	PAGE
Administrative County	7
Annual Reports	5
Appendix	99
Area	7
Bacteriological examinations	37
Births and Birth rates	7, 8
Boroughs:—	
Berwick-on-Tweed	40
Morpeth	42
Wallsend	43
Bye-laws confirmed by the Local Government Board	30
Bye-laws—districts with and without bye-laws	30
Chicken-pox... ..	16
Cholera	16
County, administrative, area and population	7
Dairies, Cowsheds, and Milkshops Order	27
Do. do. do. (Regulations under)	27
Deaths and Death rates	8, 9
Deaths, under 1 year	10
Deaths, under 5 years	12
Deaths, at 65 and upwards	12
Density of population	7
Diarrhœa	21
Diphtheria and Membranous Croup	19
Disinfection	34
Districts, Urban :—	
Alnwick	45
Amble	46
Ashington	48
Bedlingtonshire	49
Blyth	52
Cowpen	54
Cramlington	57
Earsdon	58
Gosforth	60
Hexham	62
Newbiggin-by-the-Sea	63
Newburn	64
Rothbury	66
Seghill	67
Weetslade	68
Whitley and Monkseaton	70
Willington Quay	72
Districts, Rural :—	
Alnwick	74
Belford	76
Bellingham	78
Castle Ward	80
Glendale	82
Haltwhistle	84
Hexham	86
Morpeth	88

Districts, Rural— <i>Contd.</i>	PAGE
Norham and Islandshire	91
Rothbury	91
Tynemouth No. 1	93
Tynemouth No. 2	96
Enteric fever	18
Erysipelas	20
Excrement disposal (see Scavenging)	34
Factory and Workshop Act	24
Food and Drugs Acts (see Sale of Food and Drugs Acts)	26
Hospital accommodation	34
Housing conditions	32
Housing of the working classes and Overcrowding	32
Introduction to report	5
Infant mortality	10
Infectious diseases	13
Influenza	18
Insanitary dwellings	32
Inquiries held by committees of the county council	32
Isolation hospitals	34
Loans sanctioned	31
Local Government Board Inquiries	32
Measles	17
Midwives Act, 1902	25
Mumps	17
Overcrowding (see housing of the working classes)	32
Phthisis	22
Plague	16
Pollution of rivers and streams	29
Population	7
Population, density of	7
Port Sanitary Authorities:—	
Blyth Port	38
Tweed Port	39
Tyne Port	38
Puerperal fever	20
Refuse disposal	34
Rural Districts (see Districts, Rural)	74
Rivers Pollution Prevention Act	29
Sale of Food and Drugs Acts	26
Sanitary legislation	6
Scarlatina	16
Scavenging	34
School closure	16-20
Sewerage and Sewage disposal	33
Small-pox	16
Sore Throats	20
Special Reports	5
Steam disinfectors	34
Statistics (vital)	99
Tuberculosis	21
Typhus fever	18
Urban Districts (see Districts, Urban)	45
Vital statistics, &c. (table)	99
Water Supplies	33
Whooping cough	20
Zymotic diseases	14
Zymotic death rates	14, 15



NORTHUMBERLAND COUNTY COUNCIL.

REPORT OF THE COUNTY MEDICAL OFFICER OF HEALTH FOR THE YEAR ENDING 31st DECEMBER, 1906.

TO THE CHAIRMAN AND MEMBERS OF THE PROPERTY AND SANITATION
COMMITTEE OF THE SAID COUNCIL.

GENTLEMEN :—

I have the pleasure to present my report for the year ending December 31st, 1906, in which I have followed the course adopted in previous years.

Reports were received from each of the medical officers of health in the Administrative County.

Twenty-nine of these reports were printed; three (those for the borough of Berwick-on-Tweed, the urban district of Cowpen, and the rural district of Bellingham) were typewritten; two (those for the urban districts of Cramlington and Seghill) were in manuscript form.

It is much to be regretted that the five sanitary authorities last named still fail to print and circulate the annual report of their medical officer of health; these reports contain valuable information relating to the sanitary conditions and requirements of the districts to which they relate and a copy should unquestionably be available for any ratepayer at all interested in public health matters.

One report was received in January, and twenty-six during the first quarter of the year, but the last one received did not arrive until June 4th. As I have pointed out on several occasions no calculations can be made as to county rates, etc., until *all* the annual reports are received.

The directions given by the Local Government Board are as follows :—

The report "should be made as soon as possible after the expiration of the year to which it relates. The medical officer of health ought not in general to have any difficulty in doing this within a month or six weeks; but if from any special circumstances the report cannot be completed within six weeks it should be understood that the delay must not be indefinite, and that the report should be in the hands of his council and of the Board within at most three months from the end of the year."

SPECIAL REPORTS.

It is still necessary to point out that in every case in which a medical officer of health sends a special report to the Local Government Board he is required to send a copy of such report to the county council; also that school closure requires a special report to be sent to the Local

Government Board and to the county council. Appended are copies of Articles 15 and 16 of the order of the Local Government Board for 1891, relating to these special reports, and also articles 13 and 14 of a memorandum dated July 1897, having reference to the closure of public elementary schools.

“(15) He shall give immediate information to Us of any outbreak of dangerous epidemic disease within the district and shall transmit to Us a copy of each annual report and of any special report. He shall make a special report to Us of the grounds of any advice which he may give to the sanitary authority with a view to their requiring the closure of any school or schools, in pursuance of the Code of Regulations approved by the Education Department and for the time being in force.

“(16) *At the same time as he gives information to Us of an outbreak of infectious disease or transmits to Us a copy of his annual report, he shall give the like information or transmit a copy of such report to the county council of the county within which his district may be situated.*”

By a later memorandum dated July 1897, the Local Government Board further directs as follows:—

“(13) Reports to sanitary authorities, advising the closure of a school or schools in any district are to be treated as ‘special’ reports within the meaning of the general Order of the Local Government Board of March 23rd, 1891, and copies of them are required by Art. 18 (secs. 15 and 16) of that Order, to be sent to the Board and to the county council. These reports should state the grounds upon which the medical officer of health advocates the closure of the school or schools in preference to the exclusion of particular scholars.

“All notices of the sanitary authority for the closing of public elementary schools should be addressed, in writing, to the managers, and should state the grounds upon which the closing is deemed necessary.”

SANITARY LEGISLATION.

As regards matters of public health or of local government, there are few legislation measures to be recorded.

The Alkali and Works Regulation Act was passed and came into force on January 1st, 1907. The main objects of the Act are to ensure under government inspection the adoption of in Alkali and other chemical works, the best practicable and available means for preventing nuisance or injury by the discharge of noxious poisonous or offensive gases into the atmosphere.

The need of the codification and amendment of the public health statutes, the amendment of the Sale of Food and Drugs Act, and legislation under many other heads having a direct bearing upon public health still remained to be dealt with.

I have again to thank the district medical officers of health, the surveyors and sanitary inspectors, for much valuable assistance given me on many occasions.

I am, gentlemen.

Your obedient servant,

J. W. HEMBROUGH.

THE ADMINISTRATIVE COUNTY.

AREA.

The area of the County is 1,278,600 acres, divided as follows :—Boroughs, 7,882 acres ; urban districts, 46,775 acres ; rural districts, 1,223,943 acres.

POPULATION.

The population of Northumberland (exclusive of the county boroughs of Newcastle-on-Tyne and Tynemouth), estimated to the middle of 1906, was 346,014, being a decrease of 41,777 on the 1901 census, and an increase of 11,998 as compared with the population estimated to the middle of 1905.

The greatest estimated increase in population since 1905 was in the Urban District of Bedlingtonshire (2,000).

BOROUGHES, URBAN AND RURAL DISTRICTS.

The County up to the end of 1906 was divided for the purpose of sanitary administration into 32 districts, three of which were municipal boroughs, seventeen urban districts, and twelve rural districts. There are also the Tweed, Tyne, and Blyth Port Sanitary Authorities.

BOROUGHES.

Berwick-on-Tweed, Morpeth, and Wallsend.

The population of the boroughs was estimated to be 45,363 in the middle of 1906.

URBAN DISTRICTS.

Alnwick, Amble, Ashington, Bedlingtonshire, Blyth, Cowpen, Cramlington, Earsdon, Gosforth, Hexham, Newbiggin-by-the-Sea, Newburn, Rothbury, Seghill, Weetslade, Whitley and Monkseaton, and Willington Quay.

The population of the urban districts (estimated to the middle of 1906) was 166,057.

RURAL DISTRICTS.

Alnwick, Belford, Bellingham, Castle Ward, Glendale, Haltwhistle, Hexham, Morpeth, Norham and Islandshire, Rothbury, Tynemouth No. 1 and Tynemouth No. 2.

The population of the rural districts (estimated to the middle of 1906) was 134,594.

DENSITY OF POPULATION.

The average number of persons per acre was, for the county 0·27, for the boroughs and urban districts 3·86, and for the rural districts 0·10.

This, however, was subject to great variation ; thus in the urban district of Willington Quay the average population to the acre was 28·56, while in the urban district of Rothbury it was only 1·38. In the rural districts the highest average per acre was in Tynemouth No. 2 (1·91), and the lowest in Bellingham (0·024).

The area and population of each sanitary district in the Administrative County will be found in a table at the end of this report.

BIRTHS.

The births registered during 1906 numbered 10,067, giving a birth rate for the county of 29·09. In 1905 the rate was 30·41.

Of the total births 6,638 occurred in the boroughs and urban districts, and 3,429 in the rural districts. The birth rate for the former was 31·39 per 1,000 (32·89 in 1905), and for the latter 25·47 (26·62 in 1905).

The following table shows the comparative rates:—

	Birth Rate.	Increase since 1905.	Decrease since 1905.
Administrative County ...	29·09	—	1·32
Urban districts ...	31·39	—	1·50
Rural districts ...	25·47	—	1·15
England and Wales ...	27·0	—	0·20

The three highest birth rates per 1,000 living were recorded in the following districts:—

Urban Districts.	Birth Rate.	Rural Districts.	Birth Rate.
Weetslade ...	39·42	Tynemouth No. 2 ...	35·32
Earsdon ...	38·74	Morpeth ..	28·21
Wallsend ...	37·63	Rothbury ...	27·46

while the three lowest were returned from the districts in the under-mentioned table:—

Urban Districts.	Birth Rate.	Rural Districts.	Birth Rate.
Seghill ...	11·71	Belford ...	19·26
Whitley and Monkseaton...	16·37	Bellingham ...	20·16
Rothbury ...	17·91	Glendale ...	20·18

During the year under consideration the birth rate showed an increase in 3 urban and in 3 rural districts; in 17 urban and in 8 rural districts the rate showed a decrease. In 11 urban and 4 rural districts the birth rate exceeded, and in 9 urban and 8 rural districts was below, the rate for England and Wales.

The following table shows the birth rates during the last ten years:—

Year.	Number of births per 1,000 living during the years 1897-1906.			
	Administrative County.	Urban Districts.	Rural Districts.	England and Wales.
1897 ...	31·57	34·34	26·45	29·7
1898 ...	30·88	33·86	25·23	29·4
1899 ...	31·46	34·31	25·99	29·3
1900 ...	31·24	34·03	25·56	28·9
1901 ...	33·22	36·29	26·73	28·5
1902 ...	32·76	35·45	27·04	28·6
1903 ...	32·58	35·52	26·27	28·4
1904 ...	29·42	30·89	26·21	27·9
1905 ...	30·41	32·89	26·62	27·2
1906 ...	29·09	31·39	25·47	27·0
Mean ...	31·26	33·89	26·15	28·49

DEATHS.

The number of deaths registered during 1906 was 5,026. Of these 3,207 occurred in urban, and 1,819 in rural districts.

The county rate was 14·52, as compared with 15·01 in 1905 and 17·12 in 1904; that of the boroughs and urban districts was 15·16, as compared with 15·67 in 1905, and 17·60 in 1904; the rural death rate was 13·51, as against 14·0 in 1905, and 15·99 in 1904.

The death rate for England and Wales was 15·4, as against 15·2 in the previous year.

The approximate urban death rate for England and Wales was 15·7, and the approximate rural death rate 15·1.

The following table shows the comparative rates :—

	Death Rate.	Increase since 1905.	Decrease since 1905.
Administrative County ...	14·52	—	0·49
Urban districts	15·16	—	0·51
Rural districts	13·51	—	0·59
England and Wales	15·4	0·20	—

The three highest death rates per 1,000 living in each class of district were found to be as follows :—

Urban Districts.	Death Rate.	Rural Districts.	Death Rate.
Weetslade	18·70	Bellingham	16·0
Morpeth, borough of ...	18·10	Tynemouth No. 2 ...	15·57
Alnwick	18·08	Norham and Islandshire ...	14·20

while the three lowest were recorded as under :—

Urban Districts.	Death Rate.	Rural Districts.	Death Rate.
Whitley and Monkseaton...	9·44	Tynemouth No. 1 ...	11·94
Gosforth	10·88	Belford	12·01
Seghill	11·26	Rothbury	13·02

During the year under consideration the death rate showed an increase in 12 boroughs and urban districts, and in 8 rural districts; in 8 boroughs and urban districts, and in 4 rural districts the rate showed a decrease. In 9 urban districts the death rate exceeded, and in 11 urban and in all the rural districts except one was below, the rate for England and Wales.

The following table shows the death rates for the last 10 years.

Year.	Number of deaths per 1,000 living during the years 1897–1906.			
	Administrative County.	Urban Districts.	Rural Districts.	England and Wales.
1897... ..	16·73	17·77	14·80	17·4
1898... ..	17·44	18·68	15·07	17·6
1899... ..	17·71	19·30	14·65	18·3
1900... ..	17·53	18·69	15·16	18·3
1901... ..	18·72	19·82	16·39	16·9
1902... ..	16·63	17·32	15·17	16·3
1903... ..	16·81	17·54	15·24	15·4
1904... ..	17·12	17·60	15·99	16·2
1905... ..	15·01	15·67	14·00	15·2
1906... ..	14·52	15·16	13·51	15·4
Mean	16·82	17·75	14·99	16·7

INFANT MORTALITY (UNDER ONE YEAR).

The number of deaths of children under 1 year was, in the boroughs and urban districts 971; in the rural districts 401; total 1,372.

The following table shows the comparative rates of infant mortality (deaths under 1 year per 1,000 births) :—

	Number of Deaths.	Death rate per 1,000 births.	Increase since 1905.	Decrease since 1905.
Administrative County ...	1,372	136·28	2·71	—
Urban districts ...	971	146·27	1·21	—
Rural districts ...	401	116·94	5·11	—
England and Wales ...	123,934	133·00	5·00	—

In 11 of the urban districts the infant mortality rate was higher, and in 9 lower, than in 1905.

In 8 of the rural districts the infant mortality rate was higher, and in 4 lower, than in 1905.

In 13 urban and in 4 rural districts the infant mortality rate exceeded, and in 7 urban and 8 rural districts was less than, the rate for England and Wales.

The three highest infant mortality rates per 1,000 births were recorded in the following districts :—

Urban Districts.	Infant Mortality Rate (per 1000 births.)	Rural Districts.	Infant Mortality Rate (per 1000 births.)
Seghill ...	307·68	Tynemouth No. 2 ...	157·14
Weetslade ...	195·34	Castle Ward ...	145·29
Ashington ...	188·62	Rellingham ...	140·49

while the three lowest were returned from :—

Urban Districts.	Infant Mortality Rate (per 1000 births.)	Rural Districts.	Infant Mortality Rate (per 1000 births.)
Whitley and Monkseaton	76·92	Norham and Islandshire..	56·33
Hexham ...	103·77	Glendale ...	67·79
Newburn...	111·74	Rothbury ...	74·07

The following table shows the infant mortality rates during the ten years 1897-1906 :—

Year.	Number of infant deaths per 1,000 births during the years 1897-1906.			
	Administrative County.	Urban Districts.	Rural Districts.	England and Wales.
1897...	150·66	158·77	131·26	156·
1898...	169·80	180·49	142·63	160·
1899...	173·88	187·53	139·16	163·
1900...	160·31	170·92	131·56	154·
1901 .	183·57	187·49	172·36	151·
1902...	126·90	136·04	101·39	133·
1903...	145·43	153·11	123·11	132·
1904...	168·69	179·17	141·73	145·
1905...	133·57	145·06	111·83	128·
1906...	136·28	146·27	116·94	133·
Mean ...	154·90	164·48	131·19	145·

It is a matter of common knowledge that whereas owing to improved sanitation and other agencies, the general death rate from all causes as well as the mortality from most diseases—Typhus fever, Enteric fever, Diphtheria, Scarlet fever, and Phthisis, etc., have declined considerably during the last fifty years, the infant mortality—the number of deaths occurring before the first year of life has been completed—either for the whole of England and Wales or for this county has not been lessened; thus for England and Wales during the ten years ending 1886 the deaths under one year per thousand births registered 141.8; for the ten years ending 1896 the average was 147.8; and for the ten years ending 1906 the mean infant mortality rate was 145.5 per thousand births. The records for the administrative county of Northumberland are not available further back than 1893, but for the ten years ending 1902 the average infant mortality was 154.9, and for the four years ending 1906, 145.9 per thousand births.

Independently of the inexcusable waste of human life which continues at this age period its *national* importance becomes apparent when the declining birth rate is also taken into consideration. This reduction of birth rate has been going on almost continuously since the five years ending with 1877, for which period it averaged for England and Wales 35.8 per thousand of the population. During the ten years ending 1887 the mean birth rate was 33.7, during the ten years 1888-1897, 30.4, and during the nine years ending with 1906 it was 28.3 per 1,000 of the population.

In the Administrative County the mean birth rate per 1,000 of the population was for the years 1893-1897, 32.17; for the years 1898-1902, 31.91; and for the last four years 1903-1906, 30.37.

The contributory causes of the high infant mortality are many and various and the majority are preventible. They are generally divided into those operating before, and those taking effect after birth. Among the former may be mentioned heredity, early marriages, especially of the physically defective, intemperance, illegitimacy, poverty and all the causes conducing to premature birth including the agencies employed to prevent conception and to procure abortion. Causes which after the child's birth favour the high infant mortality rate may be briefly summarised as follows:—Ignorance on the part of the mother as to how the infant should be fed, clothed and cared for, defrauding the child of its mother's milk which is every child's birthright, hand feeding with all kinds of improper food causing atrophy, marasmus, etc., exposure leading to respiratory troubles—bronchitis, pneumonia, etc.—; climatic conditions favouring diarrhœal affections; poverty, intemperance, overcrowding, insanitary surroundings and neglect whether wilful or arising from ignorance. To the above must be added in manufacturing districts the employment of mothers both before and after their confinements in mills, factories, etc., though in this county it cannot be looked upon as a contributory cause since, with the exception of laundries, hardly any factories exist in which female labour is employed.

With a view to diminishing the unnecessary waste of life at the age period 1—12 months various measures have from time to time been adopted, lectures on health subjects have been given and leaflets widely distributed. The subject however was considered uninteresting, lectures were not well attended, and the leaflets, if read, were not at all generally acted upon; in some cities municipal milk depôts have been established and have unquestionably been productive of good results inasmuch as wherever they have been available a much cleaner milk supply has been obtained than is generally possible otherwise; their adoption, however, except for very large cities, is impracticable and a great obstacle to their more general adoption is that they entail some additional charge upon the rates.

The *Infant Life Protection Act* was passed in 1897 and under it is enacted that “any person retaining or receiving for hire or reward more than one infant under the age of five years for the purpose of nursing or

maintaining such infants apart from their parents for a longer period than forty-eight hours, shall within the said forty-eight hours give notice thereof to the local authority." Saving the case of persons retaining or receiving an infant under the age of two years on consideration of a sum of money not exceeding £20 paid down, and without any agreement for further payment as value for the care and bringing up of the said infant until it is re-claimed or of an age to provide for itself, one infant may be taken without any obligation resting upon the recipient to register, and therefore no provision is made for the protection of many children received for hire or reward by individuals who escape the regulations owing to one child only being received.

It is manifest that under the above regulations children may be received by most unsuitable persons and may be most inefficiently cared for, without the controlling authority receiving any information of such children having been put out to nurse.

A bill to amend the Infant Life Protection Act has on four occasions been introduced into the House of Commons but owing to pressure of other business the Government were unable on each occasion to afford facilities for its discussion or to themselves introduce legislation on the subject.

Health Visitors have been appointed in many cities and large towns, also by several county councils. Their chief duties have been to visit most of the houses where a living child has been recently born and in a tactful manner to give advice and instruction upon the feeding and care of infants and on matters of hygiene generally. Owing however to the time during which registration of a birth could be effected being six weeks, health visitors frequently failed to hear of a child's birth until after its death, it being a common occurrence for the birth and death of a child to be registered at the same time. To obviate the difficulty arising from long postponed registration the *Notification of Births Act* was passed in August last (1907), but as the Act did not come into force during the year under review it will be dealt with fully in the annual report for 1907.

DEATHS UNDER 5 YEARS.

The deaths under 5 years numbered 1,934, giving a death rate at this age period of 5·58 per 1,000 living, as compared with 5·65 in 1905 and 6·94 in 1904.

The following table shows the numbers and death rates for the ten years 1897 to 1906 inclusive:—

Years.	Urban.	Rural.	Total.	Death Rate per 1,000 of population.	Death Rate Increase since the previous year.	Death Rate Decrease since the previous year.
1897	1,752	579	2,331	6·54	0·47	—
1898	2,003	621	2,624	7·15	0·61	—
1899	2,288	611	2,819	7·43	0·28	—
1900	2,144	576	2,720	6·99	—	0·44
1901	2,411	733	3,144	8·10	1·11	—
1902	1,888	487	2,375	5·98	—	2·12
1903	2,120	560	2,680	6·6	0·62	—
1904	2,204	689	2,893	6·94	0·34	—
1905	1,344	546	1,890	5·65	—	1·29
1906	1,407	527	1,934	5·58	0·23	—

DEATHS AT 65 YEARS AND UPWARDS.

The number of deaths at this age period was 1,286, giving a death rate of 3·71 per 1,000 living.

Of these 689 took place in the urban, and 597 in the rural districts.

The following table shows the number of deaths and death rates for the ten years 1897 to 1906 inclusive:—

Years.	Urban.	Rural.	Total.	Death Rate per 1,000 of population.	Death Rate Increase since the previous year.	Death Rate Decrease since the previous year.
1897 ...	771	556	1,327	3·72	0·38	—
1898 ...	870	601	1,471	4·01	0·29	—
1899 ...	935	594	1,529	4·03	0·02	—
1900 ...	872	628	1,500	3·85	—	0·18
1901 ...	828	529	1,357	3·49	—	0·36
1902 ...	829	580	1,409	3·54	0·05	—
1903 ...	818	540	1,358	3·34	—	0·2
1904 ...	891	557	1,448	3·47	0·13	—
1905 ...	626	565	1,191	3·56	0·09	—
1906 ...	689	597	1,286	3·71	0·15	—

INFECTIOUS DISEASES.

The cases of infectious disease notified in the Administrative County numbered 2,046. Of the above 1,272 were notified in boroughs and urban districts and 774 in rural districts.

The attack rate per 1,000 of population in the Administrative County was 5·91, in the boroughs and urban districts 6·02, and in the rural districts 5·75.

The accompanying table indicates the nature and distribution of the cases notified:—

Numbers notified in each urban and rural district.	Numbers at all ages.	Notifiable Diseases.									
		Small-pox.	Cholera.	Diphtheria and Membranous Croup.	Erysipelas.	Scarlet Fever.	Typhus Fever.	Enteric Fever.	Relapsing and Continued Fever.	Puerperal Fever.	Plague.
MUNICIPAL BOROUGHS—											
Berwick-on-Tweed ...	82	—	—	19	8	41	—	13	—	1	—
Morpeth ...	22	—	—	—	—	18	—	4	—	—	—
Wallsend ...	186	—	—	54	24	97	—	11	—	—	—
URBAN DISTRICTS—											
Alnwick ...	10	—	—	1	—	8	—	—	—	1	—
Amble ...	24	—	—	11	11	2	—	—	—	—	—
Ashington ...	208	—	—	45	37	96	—	20	9	1	—
Bedlingtonshire ...	95	—	—	7	15	56	—	15	12	—	—
Blyth ...	24	—	—	8	4	9	—	2	1	—	—
Cowped ...	91	—	—	17	6	42	—	23	3	—	—
Cramlington ...	32	—	—	6	7	14	—	5	—	—	—
Earsdon ...	40	—	—	6	20	5	—	9	—	—	—
Gosforth ...	72	4	—	10	9	43	—	5	—	1	—
Hexham ...	41	—	—	12	5	22	—	2	—	—	—
Newbiggin-by-the-Sea	14	—	—	3	1	10	—	—	—	—	—
Newburn ...	180	—	—	85	17	46	—	39	—	2	—
Rothbury ...	5	—	—	1	2	2	—	—	—	—	—
Seghill ...	—	—	—	—	—	—	—	—	—	—	—
Weetslade ...	51	—	—	33	4	8	—	6	—	—	—
Whitley & Monkseaton	45	—	—	24	5	14	—	2	—	—	—
Willington Quay ...	50	—	—	5	2	41	—	2	—	—	—
RURAL DISTRICTS—											
Alnwick ...	55	—	—	14	9	31	—	1	—	—	—
Belford ...	22	—	—	4	4	13	—	1	—	—	—
Bellingham ...	48	—	—	4	5	39	—	—	—	—	—
Castle Ward ...	97	2	—	32	14	23	—	26	—	—	—
Glendale ...	51	—	—	2	8	41	—	—	—	—	—
Haltwhistle ...	82	—	—	50	8	18	—	6	—	—	—
Hexham ...	119	—	—	28	25	59	—	6	—	1	—
Morpeth ...	95	—	—	37	8	35	—	14	—	1	—
Norham & Islandshire	22	—	—	3	3	10	—	6	—	—	—
Rothbury ...	19	—	—	3	6	9	—	1	—	—	—
Tynemouth No. 1 ...	67	—	—	5	32	27	—	2	—	1	—
Tynemouth No. 2 ...	97	—	—	9	17	67	—	4	—	—	—
Totals ...	2,046	6	—	538	316	946	—	216	15	9	—

ZYMOTIC DISEASES.

The zymotic diseases which are generally notifiable are Small-pox, Scarlatina, Diphtheria, and Fevers (Typhus, Enteric, Continued, and Relapsing). The seven principal zymotic diseases, upon which the zymotic death rate is calculated, are the four just mentioned, and in addition Measles, Whooping Cough and Diarrhœa.

Five hundred and twenty-six deaths were caused by the seven principal zymotic diseases, being an increase of 113 compared with the number registered in 1905. Of these deaths 397 took place in the urban, and 129 in the rural districts.

The three zymotic diseases which caused the greatest mortality were :—

Diseases.	Numbers in 1906.	Numbers in 1905.	Numbers in 1904.
Diarrhœa	208	162	284
Whooping Cough	111	37	248
Diphtheria and Membranous Croup	80	56	50

As Diarrhœa, Whooping cough and Measles are not generally notifiable, I am unable to give any information as to the number of cases which occurred.

The following table shows the districts, urban and rural, in which the zymotic death rate was highest :—

Urban.	Death Rate.	Rural.	Death Rate.
Willington Quay	3·58	Tynemouth No. 2	2·30
Bedlingtonshire	3·06	Morpeth	1·66
Morpeth, borough of	2·47	Castle Ward	1·42

While the lowest death rates from zymotic disease are shown in the next table :—

Urban.	Death Rate.	Rural.	Death Rate.
Rothbury	Nil.	Bellingham	Nil.
Whitley and Monkseaton	0·55	Norham and Islandshire	Nil.
Amble	0·66	Rothbury	0·2

The comparative rates are set out in the following table :—

	Death Rate.	Increase since 1905.	Decrease since 1905.
Administrative County	1·51	0·25	—
Urban districts	1·87	0·43	—
Rural districts	0·95	0·01	—
England and Wales	1·73	0·21	—

During the year under consideration the zymotic death rate showed an increase in 15 urban and 5 rural districts; in 3 urban and 5 rural districts the rate showed a decrease.

Table showing death rates per 1,000 from each of the 7 principal zymotic diseases for the 5 years ending 1906 :—

Diseases.	1902.	1903.	1904.	1905.	1906.	Increase 1905-1906.	Decrease 1905-1906.
Smallpox ...	0·007	0·04	0·06	0·01	0·002	—	0·008
Scarlatina ...	0·24	0·31	0·20	0·10	0·06	—	0·04
Diphtheria ...	0·14	0·21	0·12	0·16	0·23	0·07	—
Fevers ...	0·14	0·12	0·08	0·09	0·11	0·02	—
Measles ...	0·05	0·15	0·25	0·25	0·18	—	0·07
Whooping Cough	0·41	0·18	0·59	0·11	0·32	0·21	—
Diarrhœa ...	0·20	0·53	0·68	0·48	0·60	0·12	—

Cases of zymotic diseases notified from each district :—

1 District.	2 Number of cases notified.	3 Number of per- sons per 1000, attacked by zymotic diseases notified.*	4 Mortality rate per 1000 from zymotic diseases notified or ascertained.	5 Increase since 1905.	6 Decrease since 1905.
URBAN.					
Alnwick ...	9	1·30	1·02	0·14	—
Amble ...	13	2·16	0·66	0·06	—
Ashington ...	170	8·85	1·71	0·57	—
Bedlingtonshire ...	80	3·53	3·06	1·70	—
Berwick-on-Tweed, boro' of	73	5·43	0·74	0·37	—
Blyth ...	20	3·09	1·85	0·26	—
Cowpen ...	85	4·26	2·00	—	0·39
Cramlington ...	25	3·73	1·94	—	—
Earsdon ...	20	2·05	2·36	0·69	—
Gosforth ...	62	4·95	1·28	0·12	—
Hexham ...	36	4·36	1·69	0·94	—
Morpeth, boro' of ...	22	3·40	2·47	1·23	—
Newbiggin-by-the-Sea ...	13	5·09	0·78	—	0·40
Newburn ...	161	10·90	2·43	—	1·83
Rothbury ...	3	2·23	Nil.	—	—
Seghill ...	—	—	1·80	1·35	—
Wallsend, boro' of ...	162	6·35	1·80	0·63	—
Weetslade ...	47	8·61	2·38	2·02	—
Whitley & Monkseaton.	40	3·14	0·55	0·14	—
Willington Quay ...	48	5·38	3·58	1·76	—
RURAL.					
Alnwick ...	46	3·62	0·55	—	0·08
Belford ...	18	3·43	0·38	—	0·76
Bellingham ...	48	8·00	Nil.	—	0·33
Castle Ward ...	83	7·40	1·42	0·41	—
Glendale ...	43	4·90	0·57	0·35	—
Haltwhistle ...	74	8·03	0·75	0·08	—
Hexham ...	94	3·36	0·57	—	—
Morpeth ...	86	4·94	1·66	0·08	—
Norham & Islandshire ...	19	3·16	Nil.	—	0·16
Rothbury ...	13	2·64	0·20	—	0·25
Tynemouth No. 1 ...	35	3·09	1·23	—	0·42
Tynemouth No. 2 ...	80	5·75	2·30	0·46	—

* Exclusive of Measles, Whooping cough, and Diarrhœa, the attack rate for which cannot be ascertained, owing to those diseases not being generally notified.

CHOLERA.

No cases of Cholera occurred during the year.

PLAGUE.

No cases were recognised in any part of the county.

SMALL-POX.

Small-pox.—Six cases were notified during the year, causing one death. In the previous year 82, and during 1904, 373 cases were notified.

CHICKEN-POX.

Chicken-pox was present in five (three urban and two rural) districts, the chief interest in connection with this disease being its resemblance to a very modified type of Small-pox.

No instance of School Closure occurred owing to outbreaks of Chicken-pox, but the undermentioned school was closed on account of Chicken-pox and Diphtheria, viz., the Earsdon Urban District (Murton Council) 5 weeks for Diphtheria and Chicken-pox.

SCARLATINA.

Nine hundred and forty-six cases of Scarlatina were notified during the year; 574 in the urban, and 372 in the rural districts, causing 24 deaths. The mortality from this cause in 1905 was 35, and in 1904 the deaths numbered 84. Of the 24 deaths, 20 occurred in the urban, and 4 in the rural districts.

The following table gives the comparative death rates :—

			Death Rate per 1,000.	Increase since 1905.	Decrease since 1905.
Administrative County	...	...	0·06	—	0·04
Urban districts	...	...	0·09	—	0·01
Rural districts	...	...	0·02	—	0·08
England and Wales	...	...	0·10	—	0·01

In the urban districts the greatest number of cases occurred in Wallsend (97), Ashington (96), and Bedlingtonshire (56).

In the rural districts the greatest number of cases occurred in Tynemouth No. 2 (67), Hexham (59), and Glendale (41).

The periods of the year during which Scarlet fever was most prevalent were the months of May, September, and November.

The subjoined table gives, for the years 1900–1906, the number of persons per 1,000 living attacked by scarlet fever, and the percentage of deaths of cases notified :—

Year.	Urban Districts.		Rural Districts.		Administrative County	
	Attack rate per 1,000 living.	No. of deaths per cent. of cases notified.	Attack rate per 1,000 living.	No. of deaths per cent. of cases notified.	Attack rate per 1,000 living.	No. of deaths per cent. of cases notified.
1900	4·49	4·3	4·61	3·0	4·53	3·9
1901	5·41	3·9	5·94	2·2	5·58	3·4
1902	9·85	3·1	7·24	1·4	9·02	2·7
1903	4·36	7·2	21·42	1·4	9·78	3·1
1904	5·24	2·7	8·04	4·0	6·12	3·2
1905	3·37	3·0	4·60	2·3	3·85	2·7
1906	2·71	3·4	2·76	1·0	2·73	2·5
Mean.	4·92	3·9	7·88	2·2	5·94	3·0

The above-named disease was responsible for the Closure of Schools in the undermentioned districts for the times specified :—

In the Alnwick Rural District (Acklington) 3 weeks, and (Newton-by-the-Sea) 6 weeks, including summer holidays.

In the Belford Rural District (Bamburgh Church of England) 5 weeks, and (Beadnell) 3 weeks.

In the Morpeth Rural District (Netherton) 4 weeks, (Longhorsley Parochial) 2 weeks, and (Hartburn) 8½ weeks, including summer holidays.

In the Bellingham Rural District (Bellingham British) 2 weeks, (Bellingham National) 3½ weeks, and (Great Bavington Council) 7 weeks.

In the Glendale Rural District (Bowsden National) 5 weeks, (West Lilburn) 7 weeks, and (Wooler Presbyterian) 8 weeks.

MEASLES.

Sixty-three deaths occurred from Measles, 52 of which were in the urban, and 11 in the rural districts.

The following table shows the comparative rates :—

				Death Rate per 1,000.	Increase since 1905.	Decrease since 1905.
Administrative County	...	...	...	0·18	—	0·07
Urban districts	...	...	...	0·24	—	0·09
Rural districts	...	...	...	0·08	—	0·05
England and Wales	...	...	...	0·27	—	0·05

It was found necessary to resort to School Closure on account of the above-named disease in the undermentioned districts for the times specified :—

In the Hexham Rural District (Newton Hall) 4 weeks, (Catton) 3 weeks, (Healey) 3 weeks, (Wall) 1½ weeks, (Haydon Bridge) 1 week.

In the Belford Rural District (North Sunderland) 5 weeks for Measles and Whooping cough, also for 10 weeks, summer holidays included, for Measles, (Belford National) 6 weeks and (Belford Presbyterian) 4 weeks.

In the Gosforth Urban District (Coxlodge Catholic) 2 weeks and (Coxlodge Council) 2 weeks.

In the Norham and Islandshire Rural District (Cheswick) 4 weeks.

In the Ashington Urban District (Ashington Catholic) 4 weeks and (Newhirst) 6 weeks, including 5 weeks of summer holidays.

In the Bellingham Rural District (British School) 3½ weeks, (Falstone British) 2 weeks and (Wark Parochial) 1 week.

In the Morpeth Rural District (Broomhill Council School) 4 weeks, (Red Row Council School) 3 weeks and (North Seaton) 5 weeks, including summer holidays.

In the Castle Ward Rural District (Kirkwhelpington) 5 weeks.

In the Bedlingtonshire Urban District (Netherton Colliery) 8 weeks, for Measles and Whooping cough.

In the Alnwick Rural District (Warkworth Church of England) 7 weeks, including summer holidays, and subsequently 4 weeks.

MUMPS.

It was considered desirable to close schools on account of this disease in the following districts for the periods named :—

In the Hexham Rural District (Broomhaugh National) 2½ weeks and (Simonburn National) 4 weeks.

INFLUENZA.

The above-named disease was the cause of School Closure in the following districts :—

In the Hexham Rural District (Bingfield Church of England) $2\frac{1}{2}$ weeks.

In the Rothbury Rural District (Holystone Church of England) 1 week.

TYPHUS FEVER.

No cases of this disease were reported in the county during the year under consideration; consequently no deaths were caused thereby.

ENTERIC FEVER.

Two hundred and sixteen cases of Enteric fever were notified during the year, resulting in 37 deaths. (The mortality from this cause in 1905 was 30, and in 1904, 36.) Of these deaths 30 occurred in the urban, and 7 in the rural districts.

The following table shows the comparative rates :—

				Death Rate per 1,000.	Increase since 1905.	Decrease since 1905.
Administrative County	...	...	...	0·11	0·03	—
Urban districts	...	...	...	0·14	0·02	—
Rural districts	...	...	...	0·05	0·02	—
England and Wales	...	...	...	*	—	—

*The Registrar General does not give the death rate for Enteric (or Typhoid) singly.

Of the 216 cases notified or ascertained during the year, 149 occurred in the urban, and 67 in the rural districts.

The number of cases notified per 1,000 living was 0·62. In the boroughs and urban districts the greatest number of cases occurred in Newburn (30), Cowpen (23), and Ashington (20).

In the rural districts the greatest number of cases occurred in Castle Ward (26), Morpeth (14), and Haltwhistle, Hexham, and Norham & Islandshire, each of which contributed 6 cases.

The periods of the year during which Enteric fever was most prevalent were the months of October (52 cases), September (50 cases), and August (26 cases).

The subjoined table gives, for the years 1900–1906, the number of persons per 1,000 attacked by Enteric fever, and the percentage of deaths occurring among the cases notified :—

Year.	Urban Districts.		Rural Districts.		Administrative County.	
	Attack rate per 1,000 living.	No. of deaths per cent. of cases notified	Attack rate per 1,000 living.	No. of deaths per cent. of cases notified	Attack rate per 1,000 living.	No. of deaths per cent. of cases notified
1900	0·82	21·5	0·56	19·4	0·75	21·0
1901	1·96	17·7	1·37	19·1	1·79	18·1
1902	0·65	16·2	0·63	33·7	0·64	21·7
1903	0·51	23·9	0·43	25·0	0·48	24·2
1904	0·56	16·8	0·45	11·6	0·50	15·4
1905	0·76	16·8	0·47	6·3	0·64	13·8
1906	0·70	20·1	0·49	10·4	0·62	17·1
Mean.	0·85	19·0	0·73	17·9	0·77	18·7

DIPHTHERIA AND MEMBRANOUS CROUP.

Five hundred and thirty-eight cases were notified during the year (347 cases from urban, and 191 from rural districts.)

The diseases (one or both of them) were notified or ascertained from the following 30 districts (27 districts in 1905):—

Boroughs.—Berwick-on-Tweed and Wallsend.

Urban districts.—Alnwick, Amble, Ashington, Bedlingtonshire, Blyth, Cowpen, Cramlington, Earsdon, Gosforth, Hexham, Newbiggin-by-the-Sea, Newburn, Rothbury, Weetslade, Whitley and Monkseaton, and Willington Quay.

Rural districts.—Alnwick, Belford, Bellingham, Castle Ward, Glendale, Haltwhistle, Hexham, Morpeth, Norham and Islandshire, Rothbury, Tyne-mouth No. 1, and Tynemouth No. 2.

Eighty deaths occurred from the above diseases during the year; 61 deaths were registered in the urban, and 19 in the rural districts.

The following table shows the comparative rates:—

	Death Rate per 1,000.	Increase since 1905.	Decrease since 1905.
Administrative County	0·23	0·06	—
Urban districts	0·28	0·13	—
Rural districts	0·14	—	0·07
England and Wales	0·17	0·01	—

The subjoined table gives, for the years 1900–1906, the number of persons per 1,000 living attacked by Diphtheria and Membranous Croup, and the percentage of deaths among cases notified:—

Year.	Urban Districts.		Rural Districts.		Administrative County.	
	Attack rate per 1,000 living.	No. of deaths per cent. of cases notified	Attack rate per 1,000 living.	No. of deaths per cent. of cases notified	Attack rate per 1,000 living.	No. of deaths per cent. of cases notified
1900	0·50	25·5	0·43	18·1	0·48	23·4
1901	0·50	23·3	0·75	14·8	0·57	19·8
1902	0·41	20·5	2·25	11·5	1·00	14·0
1903	0·43	26·6	2·12	20·2	0·98	22·1
1904	0·47	18·7	1·17	16·2	0·68	17·4
1905	0·60	22·3	1·30	14·5	0·93	18·0
1906	1·64	17·6	1·41	9·90	1·55	14·8
Mean.	0·65	22·1	1·34	15·1	0·80	18·5

School Closure was found necessary on account of the above-named disease in the undermentioned districts for the times specified:—

In the Alnwick Rural District (Acklington) 4 weeks and (Glanton) 2 weeks.

In the Castle Ward Rural District (Belsay) 3 weeks and (Ponteland) 1 week.

In the Earsdon Urban District (Murton) 5 weeks for Diphtheria and Chicken-pox, (Shiremoor) 3½ days and (Earsdon) 1 week.

In the Morpeth Rural District (Cambo British) 5 weeks.

SORE THROATS.

In the Hexham Rural District the Allendale School was closed for 2 weeks in consequence of a considerable number of the children having sore throats, an outbreak of this kind being frequently a precursor of an epidemic of Diphtheria.

WHOOPIING COUGH.

One hundred and eleven deaths were caused by Whooping cough, 93 of which took place in the urban, and 18 in the rural districts.

The following table shows the comparative rates :—

	Death Rate. per 1,000.	Increase since 1905.	Decrease since 1905.
Administrative County	0·32	0·21	—
Urban districts	0·43	0·32	—
Rural districts	0·13	0·04	—
England and Wales	0·23	—	0·02

Recourse to School Closure owing to the above-named disease was considered necessary in the undermentioned districts for the times specified :—

In the Belford Rural District (North Sunderland Church of England) 5 weeks, for Measles and Whooping Cough.

In the Hexham Rural District (Ninebanks Council) 3 weeks, for Whooping Cough.

In the Bedlingtonshire Urban District (Netherton Colliery) 8 weeks, for Measles and Whooping Cough.

In the Rothbury Rural District (Callaby and Yetlington) 3 weeks, for Whooping Cough.

PUERPERAL FEVER.

This disease caused 4 deaths during the year, as compared with 10 in 1905. All these deaths occurred in the urban districts.

The following table indicates the comparative rates :—

	Death Rate. per 1,000.	Increase since 1905.	Decrease since 1905.
Administrative County	0·01	—	0·01
Urban districts	0·18	0·17	—
Rural districts	Nil.	—	0·05

ERYSIPELAS.

Erysipelas caused 6 deaths during the year; 2 in the urban, and 4 in the rural districts.

The comparative rates will be seen by reference to the following table :—

	Death Rate per 1,000.	Increase since 1905.	Decrease since 1905.
Administrative County	0·010	—	—
Urban districts	0·009	—	0·001
Rural districts	0·020	—	—

DIARRHŒA.

The number of deaths from this cause was 208, as compared with 159 in 1905, and 284 in 1904. Of these deaths 139 occurred in urban, and 69 in rural districts :—

The following table shows the comparative rates :—

				Death Rate per 1,000.	Increase since 1905.	Decrease since 1905.
Administrative County	...	...	...	0·60	0·13	—
Urban districts	...	...	...	0·65	0·08	—
Rural districts	...	...	...	0·51	0·20	—
England and Wales	...	...	...	0·87	0·28	—

TUBERCULOSIS.

The deaths from Tuberculosis numbered 570, of which 362 were caused by Phthisis (tubercular disease of the lungs) and 208 from Tuberculosis in other organs. Appended hereto is a table showing the number of deaths from tubercular disease, the death rate per 100,000 population for the year 1906, and also the average death rate from the above disease for the seven years ending December 31st, 1906.

For several years all those interested in public health questions have felt the necessity of adopting some additional measures for reducing the mortality from tubercular disease. This is not to be wondered at when the following facts are recognised :—

- (1) That Tuberculosis causes more deaths than result from the seven principal Zymotic diseases collectively.
- (2) That a recent investigation in Liverpool showed that out of 4,000 paupers about 60 per cent. became chargeable to the rates on account of their being consumptive.
- (3) That it has for some years been universally acknowledged that this disease is infectious and preventible.
- (4) That about 30 per cent. of the milch cows in England are tuberculous, and that consequently infants and persons suffering from dangerous illness are in many cases being fed with milk containing the organisms of Tuberculosis.

In the year 1901 Prof. Koch propounded his theory that human and bovine Tuberculosis were entirely distinct diseases, that they could not be inter-communicated, and that consequently there was practically no risk of human beings contracting general Tuberculosis as a result of consuming tuberculous meat or milk. This theory propounded by such an eminent bacteriologist was naturally hailed with delight by farmers and dairymen; it was anticipated that it sounded the death knell of the condemnation of carcases of meat, and of consignments of milk, even if the former were in an advanced stage of Tuberculosis, and that infants and invalids could henceforth imbibe with impunity large quantities of milk swarming with the bacilli of Tuberculosis.

Koch's theory, however, was so diametrically opposed to the opinion held by eminent bacteriologists in this country as well as in America and Germany, that fresh investigations were set on foot, and as regards England a Royal Commission was appointed in August, 1901, to inquire and report:—

- (1) Whether the disease in animals and man is one and the same.
- (2) Whether animals and man can be reciprocally infected with Tuberculosis.
- (3) The conditions, if any, under which the disease is transmitted from animals to man and the circumstances favourable or the reverse to such transmission.

I do not propose in the present report to discuss at any length the various matters of very great importance in connection with this great subject, chiefly because up to the end of the year under consideration (1906), the Royal Commission on Tuberculosis appointed in 1901 had only issued their First Interim Report (May, 1904). The Second Interim Report issued in January, 1907, will be dealt with in the Annual Report for that year.

The First Interim Report stated that the results obtained by the Commission were so striking that they felt it their duty to make them known without further delay, deferring until a subsequent report all details of the experiments carried out. The report also stated—"that Tuberculosis of human origin can give rise in the bovine animal to Tuberculosis identical with ordinary bovine Tuberculosis seems to us to show quite clearly that it would be most unwise to frame or modify legislative measures in accordance with the view that human and bovine tubercle bacilli are specifically different from each other, and that the disease caused by one is a wholly different thing from the disease caused by the other."

The further investigations of the Commission and the results arrived at are of still greater importance and will be dealt with in the Annual Report for the year (1907), during which they were made known.

The following table shows the deaths and death rates arising from all forms of Tuberculosis in the county for the years 1900-1906:—

Year.	Phthisis.		Other tubercular diseases.		Total deaths from Tuberculosis.	
	Deaths.	Death Rate per 100,000 living.	Deaths.	Death Rate per 100,000 living.	Deaths.	Death Rate per 100,000 living.
1900 ...	537	138	244	62	781	200
1901 ...	495	125	280	71	775	198
1902 ...	498	125	240	60	738	185
1903 ...	485	119	323	79	808	198
1904 ...	490	117	317	76	807	193
1905 ...	344	102	239	71	583	178
1906 ...	362	104	208	60	570	164

PHTHISIS.

Though it has been known for twenty-four years that Phthisis is an infectious, preventible, and in the early stages, a curable disease, and though the deaths from this disease have averaged during the ten years (1896-1905) 126 per 100,000 for England and Wales and for this county 123, no energetic action has been taken by sanitary authorities towards reducing the ravages from this disease. When the fact is realised that in the County of Northumberland one out of every 9 deaths is due to tubercular disease in one or other of its various forms and that these deaths exceed the sum of all those caused by all other infectious diseases, it is surely a matter for surprise that so little has been attempted in the direction of controlling and reducing the mortality from this cause. It is true that six years ago a branch of the National Association for the Prevention of Consumption was formed in this county, and that several lectures have been given with a view of interesting the public generally and sanitary authorities in particular in an attempt to reduce the ravages from this disease, but it was only during the year 1906 that the Northern Branch of the Association were able to erect a sanatorium at Barrasford capable of receiving fifty patients and having an administrative block and all other requisites for accommodating a hundred patients, besides the necessary staff. Funds are urgently required as there is practically no endowment fund, and until the financial position of the institution is placed upon a more satisfactory basis the charge for admission will necessarily be the actual cost of maintenance and treatment.

There is already both in the British Isles and abroad abundant provision for persons of the well-to-do class requiring sanatorium treatment, but in England hardly any provision is made for the poorer classes, and, until the sanatorium at Barrasford was erected, no institution of any kind existed in this county either for the rich or poor of either the City of Newcastle or the County of Northumberland in which Phthisical persons could be received.

Sanatorium treatment has long since passed beyond the experimental stage. It has been proved beyond dispute that a large proportion of suitable cases (*i.e.*, patients in an early stage of the disease) are actually curable, and that also a large proportion of patients who have been healed in sanatoriums have remained well and have been continuously at work either at their original or more suitable employment. This last-named result is almost more than could reasonably have been expected when it is remembered that a Phthisical patient of the poorer classes on leaving the sanatorium frequently returns to most unfavourable conditions of home life and to most unfavourable conditions of employment. For example, he too often returns to an unhealthy house, it may be damp, ill-ventilated, and overcrowded, it may be so placed or constructed that but little sunlight enters; its surroundings frequently are unmade roads and footpaths and privy ashpits of the foulest kind in close proximity to the house and still nearer the pantry window, or in towns the dwelling may be tucked away in narrow courts the access to which is through narrow covered passage entries, many of the dwelling houses being tenemented property having an entrance and staircase for several families. As to conditions of employment the patient is no longer able to protect himself from wet and he must stand with his costermongers' barrow, go about with his horse and cart or cab, etc., etc., in all weathers or his earnings cease. But his residence in a sanatorium has not only had the effect of building up his physical condition and arresting his disease, but has also taught him most valuable lessons in the direction of the manner in which Phthisis is developed and spread, the precautions which must be taken to prevent the healthy being infected, the beneficial effect of admitting air into a dwelling house by night as well as by day all the year round and the management of his expectoration, &c., so as to avoid danger to himself and others.

Three hundred and sixty-two deaths were caused by this disease in the Administrative County during the year, distributed as follows:—221 in the urban, and 141 in the rural districts. The number of deaths in 1905 was 344, and in 1904, 490.

The comparative rates are shown in the following table:—

	Death Rate per 1,000.	Increase since 1905.	Decrease since 1905.
Administrative County	1·04	0·02	—
Urban districts	1·04	—	0·05
Rural districts	1·04	0·12	—
England and Wales	*	—	—

* The Registrar-General does not give the death rate except for London.

The three highest Phthisis death rates per 1,000 living were recorded in the following districts:—

Urban Districts.	Phthisis Death Rate.	Rural Districts.	Phthisis Death Rate.
Hexham	2·30	Hexham	1·43
Newbiggin-by-the-Sea	1·96	Tynemouth No. 1	1·32
Alnwick	1·76	Haltwhistle	1·19

While the three lowest were recorded as under :—

Urban Districts.	Phthisis Death Rate.	Rural Districts.	Phthisis Death Rate.
Seghill	Nil.	Bellingham	0·66
Berwick-on-Tweed ...	0·52	Norham and Island- shire	0·66
Newburn	0·74	Castle Ward	0·71

The subjoined table indicates the deaths per 1,000 living caused by Phthisis during the ten years 1897–1906 :—

Year.	Urban Districts.	Rural Districts.	Administrative County.
1897	1·58	1·34	1·50
1898	1·65	1·07	1·32
1899	1·34	1·13	1·27
1900	1·41	1·30	1·38
1901	1·27	1·19	1·25
1902	1·25	1·24	1·25
1903	1·29	0·98	1·19
1904	1·20	1·12	1·17
1905	1·09	0·92	1·02
1906	1·04	1·04	1·04
Mean	1·31	1·13	1·23

RESPIRATORY DISEASES.

Respiratory diseases (exclusive of Phthisis), caused 565 deaths in the Administrative County during the year, 357 taking place in the urban, and 208 in the rural districts.

The following table shows the comparative rates :—

			Death Rate per 1,000.	Increase since 1905.	Decrease since 1905.
Administrative County	...	...	1·63	0·01	—
Urban districts	...	...	1·68	—	0·46
Rural districts	...	...	1·54	0·04	—

FACTORY AND WORKSHOP ACT, 1901.

The table supplied to every medical officer of health was in the majority of cases made use of and enclosed with the annual report.

In very few cases is there any mention of home workers. The Act imposes upon every council the obligation to *keep a register* of all workshops within the district, and also receive twice a year from the occupiers of factories, workshops and workplaces, a list of home workers doing certain kinds of work at home, which lists must be preserved both by the council and by the employers of labour. Unless the list of home workers is faithfully kept it is impossible to guard against excessive hours of employment, sweated labour, or homework being given out to be done on premises which are unwholesome or in other ways unsuitable.

Register and
list of home-
workers.

The council may prohibit certain kinds of homework being given out if the places in which the work is to be carried on are unwholesome, or are dwellings where notifiable infectious diseases exist, and even without such prohibition (which if necessary may be issued by two members of the council on the recommendation of the medical officer of health) it is a penal offence to send out wearing apparel to be made, altered, etc., at houses in which the employer knows that Scarlatina or Small-pox exists. House work in unsuitable premises, &c.

The council must be satisfied that in every factory commenced before 1st January 1892, and in every workshop commenced before 1st January 1896, if more than 40 persons are employed, there are adequate means of escape from fire; and in the case of factories commenced after 1st January 1892, or workshops commenced after 1st January 1896, if more than 40 persons are employed, a certificate must be procured from the council that adequate means of escape from fire are provided. Provisions for escape from fire.

The council enforces the provision of sufficient closet accommodation in all factories and workshops if sec. 22 Public Health Acts Amendment Act is in force, otherwise this duty devolves upon the Factory Inspector. Sanitary conveniences.

The council proceeds under the nuisance clauses of the Public Health Act, 1875, in the event of want of cleanliness, airspace and ventilation. Procedure under Public Health Act, 1875.

Bakehouses. The Act requires additional sanitary provisions relating to closet accommodation, sleeping places, limewashing and floor level (secs. 97, 99, 100) and after January 1904 no underground bakehouse can be used unless the council gives a certificate of suitability (sec. 101). Bakehouses underground bakehouses.

If the council fail to remedy any sanitary defects of which the Factory Inspector has informed them and fail to carry out the provisions of the Act, the Factory Inspector may carry out the council's duties, and recover the expenses from the council. Powers of Factory Inspector if council fail to remedy sanitary defects.

The medical officer of health must in his annual report deal with the administration of this Act, and must send copy of this portion of his report to the Secretary of State (sec. 131). Medical officer of health and annual report.

THE MIDWIVES ACT, 1902.

The Inspector visited all the midwives admitted to the Roll, in many cases more than once, explaining to each the Midwives Act, the Rules issued by the Midwives Board and their obligations under the above-named Act and Rules. The Inspector, in addition, devoted a considerable amount of time to giving help and instruction to the untrained and uneducated midwives (who had been admitted to the Roll by virtue of their having been in *bonâ fide* practice for twelve months before the passing of the Act) as to the proper conduct of their work, including the precautions to be taken in order to prevent the occurrence of Puerperal fever and the spread of infectious disease, also the keeping of the various records required of them by the Rules of the Central Midwives Board.

From the reports of the Inspector and from visits of inspection paid by myself without notice, I am satisfied that a considerable improvement has taken place during the year in the manner in which the untrained midwives conduct their work. They are much more careful as regards cleanliness of their hands and appliances, a greater number wear washing dresses and aprons, and though many of them can neither read nor write, they manage to get their case books filled in fairly well, and make an honest attempt to carry out the Rules of the Board as well as they are able. At the beginning of the year sixty-five trained and thirty-three untrained midwives were on the Roll; at the end of the year there were ninety-two of the former and thirty-five of the latter. There were added to the Roll thirty-eight fresh

names. One thousand six hundred and forty-eight confinements were attended during the year by midwives. Of this number one thousand one hundred and sixty-one were attended by trained midwives. No death of a mother occurred and in only five instances was it necessary to send for medical aid. No cases of Puerperal fever occurred among the one thousand six hundred and forty-eight confinements attended by certified midwives. Fifteen children were born dead. All of these still births occurred among four hundred and eighty-three confinements attended by untrained midwives, no medical man being present.

No midwife was reported for misconduct, negligence or disregard of the Rules, and in no case was it necessary to suspend a midwife with a view of preventing the spread of disease.

The above record is very remarkable and probably too good to be maintained year by year.

The Midwives Act and the Rules issued by the Central Midwives Board had not long been in operation before difficulties began to be experienced by Local Supervising Authorities in interpreting and administering the Act, in arriving at a uniform interpretation of the Rules and in enforcing the latter, especially in the case of illiterate women admitted to the Roll. These difficulties have been the subject of several conferences in Birmingham and London of executive officers acting under the various Local Supervising Authorities, and of much correspondence with the central authority.

The Rules were thoroughly revised but up to the end of the year had not been re-published, the operation of the existing Rules having been extended to February 12th, 1907.

The number of untrained midwives in the county at present on the Roll and of those pursuing their avocations, though not admitted to the Roll, will in the ordinary course of human events, be considerably reduced before April 1st, 1910, after which date no woman can represent herself to be "a person specially qualified to practise midwifery, or recognised by law as a midwife" or one who can "habitually and for gain attends women in childbirth otherwise than under the direction of a qualified medical practitioner, unless she be certified under this Act."

The Education Committee of the County Council provided the North-umberland County Nursing Association with sufficient funds for the training of six women during each year, all of whom are pledged to act under the Association for three years.

SALE OF FOOD AND DRUGS ACT.

The samples taken for analysis under the Sale of Food and Drugs Act during the year, and the result of the analyses, &c., are shown in the following table:—

No. of Samples.	Description of Article.	Result of Analysis.	Proceedings (if any).
-----------------	-------------------------	---------------------	-----------------------

For the Quarter ended 31st March, 1906.

1	Pepper	...	Pure	Nil
4	Butter	...	1 Doubtful Genuineness	Nil
7	Milk	...	Pure	Nil
16	Whisky	...	3 Adulterated	1 Conviction
1	Lard	...	Pure	Nil

No. of Samples.	Description of Article.	Result of Analysis.	Proceedings (if any).
-----------------	-------------------------	---------------------	-----------------------

For the Quarter ended 30th June, 1906.

12	Whisky ...	Pure ...	Nil
3	Corn Flour ...	Pure ...	Nil
10	Milk ...	2 Adulterated ... 1 Doubtful Genuineness	1 Conviction
7	Butter ...	Pure ...	Nil
1	Blackcurrant Jam	Pure ...	Nil
2	Strawberry Jam ...	Pure ...	Nil
1	Coffee ...	1 Adulterated ...	Nil
1	Cream of Tartar ...	Pure ...	Nil
1	Greengage Jam ...	Pure ...	Nil
2	Arrowroot...	Pure ...	Nil
1	Lard ...	Pure ...	Nil
1	Gin ...	Pure ...	Nil
1	Pepper ...	Pure ...	Nil
1	Ground Ginger ...	Pure ...	Nil
1	Port Wine ...	Pure ...	Nil

For the Quarter ended 30th September, 1906.

13	Whisky ...	1 Adulterated ...	1 Conviction
4	Butter ...	1 Doubtful Genuineness	Nil
16	Milk ...	3 Adulterated ...	2 Convictions
2	Blackcurrant Jam	Pure ...	Nil
1	Strawberry Jam ...	Pure ...	Nil
3	Lard ...	1 Adulterated ...	Nil
1	Rum ...	Pure ...	Nil
2	Pepper ...	Pure ...	Nil
1	Port Wine ...	Pure ...	Nil
2	Gin ...	Pure ...	Nil

For the Quarter ended 31st December, 1906.

2	Butter ...	Pure ...	Nil
19	Milk ...	1 Adulterated ...	1 Prosecution
1	Vinegar ...	Pure ...	Nil
1	Port Wine ...	Pure ...	Nil
1	Olive Oil ...	1 Adulterated ...	1 Prosecution
3	Cinnamon ...	Pure ...	Nil
13	Whisky ...	1 Adulterated ...	1 Conviction
2	Camphorated Oil...	1 Adulterated ...	1 Prosecution
1	Rum ...	Pure ...	Nil
1	Strawberry Jam ...	Pure ...	Nil
1	Arrowroot...	Pure ...	Nil
2	Baking Powder ...	Pure ...	Nil
1	Lard ...	Pure ...	Nil
1	Chocolate ...	Pure ...	Nil

THE DAIRIES, COWSHEDS AND MILKSHOPS ORDERS.

The adoption of regulations under the Order being optional many sanitary authorities have failed to frame any, and though under Secs. 7 and 8 of the Order, even in the absence of regulations, provision must be made for the lighting and ventilation, including air space, and the cleansing, drainage and water supply being such as are necessary or proper:—(a) for the health and good condition of the cattle in cowsheds; (b) for the cleanliness of vessels used therein for containing milk for sale, and (c) for the protection of the milk therein against infection

or contamination; the terms of the Order are so ambiguous that without regulations providing for a definite amount of air space, lighting, ventilation and for the construction of floors, the provision of a water supply, drainage, etc., etc., all the above provisions, as regards their sufficiency, are practically left to the discretion of the Sanitary Inspectors, among whom different opinions are held as to what constitutes "sufficiently"; the difficulties of the Inspectors' position in the matter are further increased owing to the large area they have to cover, by their having no security of tenure, by owners and occupiers of insanitary cowsheds being directly or indirectly represented on the local authority, and by neither owners nor occupiers, in some localities, wishing for any higher standard of ventilation or cleanliness than at present exists, the former fearing any expenditure being entailed thereby and the latter fearing any increase of rental being imposed. Consequently many cowsheds continue in the same deplorable state as mentioned in previous annual reports and a considerable amount of milk is produced under all the conditions most favourable to the spread of Tuberculosis amongst cows and to its contamination in various ways by dust, dirt, hair and particles of manure with their accompanying living organisms.

Legislation is urgently required empowering the Local Government Board to enforce the adoption of regulations under the Dairies, Cowsheds and Milkshops Order and requiring every cowkeeper, dairyman or shopkeeper selling milk to have his premises *licensed* each year, the granting of such licence being conditional on the cowshed, dairy or milkshop being kept in a satisfactory condition and according to the regulations.

There are comparatively few dairies for the storage of milk for sale in this county it being the general practice to distribute milk to customers by cart immediately it has been drawn from the cows.

The majority of the cowsheds are unsatisfactory either as regards their structural condition, including provisions for lighting and ventilating, condition of floors and drainage, or in respect of being overcrowded and kept in an uncleanly condition.

Most of the local authorities have adopted regulations under the Dairies, Cowsheds and Milkshops Order, in many cases the model regulations issued by the Local Government Board have been adopted; chiefly in consequence of their ambiguity, however, the latter have frequently become a dead letter. One or two instances of such ambiguity will explain the reasons for such regulations having but little practical effect, *e.g.*, if milch cows are habitually grazed during a greater portion of the year no stipulation is made in the model regulations of cubic air space per cow and consequently many cowsheds especially in rural districts are grossly overcrowded. Again if milch cows though not habitually grazed during the greater portion of the year are turned out for a portion of each day, no stipulation is suggested of any standard of cubic air space per cow.

In this county milch cows are not grazed for the greater portion of the year, and "turn out for a portion of each day" in a great many instances resolves itself into being turned out for a few minutes only in order to drink from the water trough outside. The model regulations for cows turned out for a portion of each day are in this county impracticable, as if a sufficiently long time were fixed to exert any effect in ventilating the cowshed it would during inclement weather frequently be impossible to enforce such regulations in rural districts.

The Local Government Board should be empowered to compel every sanitary authority to adopt regulations under the Dairies, Cowsheds, and Milkshops Order, and County Councils should be empowered to enforce

them. The importance of a pure clean milk supply cannot be overestimated, and this cannot be obtained from cows housed and milked under insanitary conditions.

RIVERS POLLUTION PREVENTION ACT.

River Tweed.—No further action was taken during the year in the direction of abating the pollution of this river and its tributaries. The Local Government Board however, intimated their intention of sending an Inspector to inquire as to the amount and sources of pollution, and the county medical officer having ascertained the sources of pollution on the Northumberland side furnished the Inspector with all details likely to facilitate his inquiry.

The following instances of water courses being polluted by unpurified sewage were reported during the year to the Property and Sanitation Committee.

The Borough of Wallsend.—Pollution of the Wallsend Burn or its tributaries by sewage from the West Farm, Wallsend; Westmoreland Cottage and the High Farm, Wallsend. The conditions obtaining at the above-mentioned places were reported to be unchanged since the inspections in the previous year.

Tynemouth Rural District.—Pollution of the Wallsend burn and its tributaries by sewage from White Cottage, Bigges Main, Benton Hall, Benton Park, Benton Park Farm, Wagonway Cottage, Mr. Dodd's Farm, East and West Villas, Little Benton, and Benton Place, Long Benton.

The pollution of the Wallsend burn not having been remedied, the powers of the County Council as regards taking proceedings under the Rivers Pollution Prevention Acts were delegated to the Property and Sanitation Committee; statutory notices were served and legal proceedings were initiated. During the year various letters were received by the Committee from the Clerk of the Tynemouth Rural District Council intimating that negotiations were in progress between the District Council and the Corporation of the City of Newcastle-on-Tyne, having for their object the admission of sewage from a portion of the Tynemouth Rural District into one of the sewers vested in the Newcastle Corporation. Consequently at the end of the year the proceedings stood adjourned pending the result of the above-mentioned negotiations.

Earsdon Urban District.—Foul effluent from the sewage farm and numerous complaints of serious nuisance and injury to stock arising from the pollution of the Brierdean burn; also pollution of Seaton burn by imperfectly purified sewage from Holywell. The conditions described above were unchanged during the year under review, but an official communication was received that a definite sewerage scheme had been adopted by the Council of the above district, and that an application had been made to the Local Government Board for sanction to borrow the necessary money for carrying out the scheme. An Inquiry was held by one of the Board's Inspectors in consequence of this application.

Morpeth Rural District.—Pollution of the Steads burn from premises at Bus Row, Widdrington Colliery Village and Chevington Crescent. The conditions reported in the previous year with regard to the pollution of the Coal burn and the Hepscott burn by sewage from the Station and Village of Hepscott and outlying dwelling houses still obtained in the year under review. The same remark applies in many cases to the instances of pollution of the River Lyne and its tributaries reported in November, 1904.

Castle Ward Rural District.—Pollution of the Ouseburn by sewage from West Gosforth Station and by unsatisfactory effluents from tanks at the Cowlodge, Fawdon, and Kenton Stations. The officials of the North Eastern

Railway Company have given assurances to the effect that all necessary alterations will be carried out without delay.

Pollution of the above mentioned burn by crude sewage from houses at Fawdon Old Pit was also reported.

Pollution of the River Blyth and its tributaries by sewage from the Dovecot Landsale Colliery, Stamfordham, houses, &c. at Stannington Bridge and at the village of Stannington; also the North Eastern Reformatory, Stannington; Stannington Moor Farm and the Bungalow and Village Homes at Ponteland.

Ashington Urban District.—Pollution of Haydon lech and the river Lyne previously reported in 1897, 1900 and 1904. During 1905 an engineer was directed to prepare a sewage disposal scheme which was presented to the council before the end of the year.

Beyond an assurance from the Ashington Urban District Council that the proposed scheme was under consideration nothing appears to have been done during 1906 to obviate the pollution complained of.

Rothbury Urban District.—With regard to the pollution of the river Coquet by crude sewage from Rothbury, reported during 1905, powers with respect to the carrying out of the Rivers Pollution Prevention Act were delegated to the Property and Sanitation Committee.

A communication was received from the Urban District Council that an application had been made by them to the Local Government Board for sanction to borrow £5,500 for a sewerage scheme for Rothbury.

Cramlington Urban District.—With regard to the pollution of the Seaton burn by sewage from this district the Urban District Council carried out, during the year, a sewerage system to obviate the pollutions previously reported, and the proceedings which had been commenced by the committee were thereupon abandoned.

Seghill Urban District.—In reference to the pollution of the Seaton burn by sewage from this district the proceedings which the committee had commenced against the District Council under the Rivers Pollution Prevention Act stood adjourned at the end of the year in consequence of assurances by the Seghill Urban District Council that schemes for sewerage and sewage disposal were being prepared.

BYE-LAWS.

The urban districts of Cramlington and Seghill were without bye-laws at the end of 1906.

BYE-LAWS CONFIRMED BY THE LOCAL GOVERNMENT BOARD DURING 1906.

Names of Authorities.	Subjects.
Amble Urban District Council	Removal to Hospital from ships of persons suffering from a dangerous Infectious Disorder.
Newburn Urban District Council	Burial Grounds, Cemeteries, and Mortuaries.
Alnwick Rural; District Council	Streets and Buildings and matters in connection with Buildings.

LOANS.

Loans for sanitary and other public improvements applied for by the Northumberland County Council, and by the undermentioned boroughs, urban and rural district councils, were sanctioned by the Local Government Board during 1906.

Purpose.	Period in years.	Amount.
NORTHUMBERLAND COUNTY COUNCIL:—		£
<i>General County Purposes—</i>		
New Council Offices	30 years	12,746
County Lunatic Asylum Water Scheme	25 „	1,667
Foundations to main roads	20 „	6,000
<i>Educational Purposes—</i>		
Erection of Hauxley Radcliffe Council School ...	30 „	1,992
Furniture for do.	10 „	158
Temporary School at Whitley Bay	10 „	1,000
Enlargements and Improvements to Murton Council School—		
Buildings	30 „	3,997
Furnittre, &c.	10 „	198
Drainage, &c., at Cornhill Tillmouth Council School	30 „	81

Authority.	Purpose.	Period in years.	Amount.
URBAN DISTRICT COUNCILS			£
Berwick	Elementary education...	30 years	4,000
Bedlingtonshire	Sewerage	30 „	3,570
Blyth	Private street improvement	1 „	900
Cowpen	Do. do.	3 „	1,600
Earsdon	Sewerage	30 „	5,500
Gosforth	Street improvement ...	23 „	560
	Do. (land for)	60 „	1,080
	Fire brigade	25 „	200
Hexham	Fire brigade purposes...	10 „	460
	Water undertaking ...	30 „	2,500
Newbiggin-by-the-Sea	Private street improvement	7 „	300
Whitley and Monk-seaton	Private street improvement	5 „	10,480
	Street improvement ...	20 „	533
	Land for Street improvement	60 „	2,839
RURAL DISTRICT COUNCILS.			
Tynemouth	Private street improvement	5 „	1,700
	Do. do.	5 „	400

LOCAL GOVERNMENT BOARD INQUIRIES.

During 1906 I received notice of the following inquiries to be held by Officials of the Board:—

Date.	Sanitary District.	Subject.	Amount of Loan.
1906.			£
March 6th	Urban district of Gosforth and rural district of Castle Ward	Sanction to borrow money for works of sewerage (including works to be executed in the Township of Fawdon)	14,000
June 26th	Township of Chevington East, Chevington West and Hadstone in the rural district of Morpeth	Sanction for loan for providing a joint burial ground at Broomhill	{ 662 306 241
July 4th ...	Urban district of Cowpen	Sanction for loan for the construction of a storage reservoir and filter bed at Bebside waterworks	1,650
July 5th ...	Urban district of Blyth	Sanction for loan for purposes of water supply (including the purchase of certain existing waterworks)	14,500
July 31st	Urban district of Earsdon and rural district of Tynemouth	Sanction for loan for works of sewerage (including the execution of works in the Township of Hartley)	5,500
Sept. 19th	Borough of Tynemouth and urban district of Whitley and Monk-seaton	Sanction for loan for extensions to the Marden Burn sewer	2,000 (in equal moieties between the two districts)
Sept. 26th	Urban district of Hexham	Sanction for loan for purposes of water undertakings	2,500
Sept. 27th	Rural district of Haltwhistle (township of Thirlwall)	Sanction for loan for water supply to the village of Longbyre	325

INQUIRIES HELD BY COMMITTEES OF THE COUNTY COUNCIL.

Date of Inquiry.	Subject matter of inquiry.
March 7th, 1906 ...	The proposal for the transference to the Ashington Urban District of portions of the parishes of North Seaton and Woodhorn
September 28th, 1906 ...	The proposal for the division of the Urban District of Gosforth into four wards
October 9th, 1906 ...	The proposal for the increase of the number of guardians in the Hexham Union

HOUSING OF THE WORKING CLASSES AND OVERCROWDING.

The housing of the working classes in many districts continued to be in a most unsatisfactory condition, and the amount of overcrowding was in many localities very pronounced, the latter condition being in many cases aggravated by the means for ensuring ventilation being most inadequate and not infrequently entirely absent. Many instances could be brought forward of two families being in a house containing four, and in some cases, two rooms, and there were also about five thousand one-roomed tenements in the administrative county. It is well-known that, especially in colliery districts,

the system of providing a number of free houses is largely responsible for the conditions above-named; colliery owners are naturally averse to providing more houses for which they receive no rent than they must, and, consequently, as a colliery develops the houses originally provided become less and less adequate to meet the requirements of a progressively increasing number of workmen. As the men who are unable to get free houses receive as rent allowance a sum which, in nearly all cases is considerably less than they pay for their rented houses, they are willing to live in almost any kind of a house no matter what are its structural conditions and its sanitary (or insanitary) surroundings, so long as it is a free house, and not infrequently add to their income by taking in one or more lodgers or a married son or daughter and perhaps children.

WATER SUPPLIES.

Extensions of the mains of the Newcastle and Gateshead Water Co. were made in the following localities:—

Gosforth.—Salter's Road to Regent House; Graham Park Estate; Gosforth Golf Club; Lambert Square, Coxlodge; Station Road; Salter's Lane; Newton Road; Roseworth Estate; Laycock Estate and Ashburton Estate.

Weetslade.—Wideopen to Fisher Lane, Seaton Burn; and Fisher Lane End to Cramlington Lane.

Willington Quay.—Bewick Road.

Wallsend.—Clifton Avenue and Curzon Road.

Bellingham Rural District.—West Woodburn.

Castle Ward.—Coach Lane, Dinnington.

Hexham Rural District.—Birch's Nook and Painshawfield Estate, Stocksfield.

Tynemouth Rural District.—Tynedale Terrace and St. Margaret's Avenue, Benton; Hartford Colliery, Waggonway to Horton High Farm; High Horton Farm to Plessey Waggonway; Hazlerigg Estate, Camperdown; Longbenton Estate, Forest Hall; and Holystone.

Water supplies were much needed for Tweedmouth and Spittal in the borough of Berwick-on-Tweed, for the urban districts of Alnwick, Blyth and Newbiggin-by-the-Sea, for Acklington in the Alnwick Rural District, Haydon Bridge in the Hexham Rural District, and many other small towns and villages in rural districts.

In rural districts the water supplies for a great many houses or collections of houses continued to be most unsatisfactory, the undesirable conditions being for the most part caused by either the water for domestic purposes being derived from shallow surface wells liable to gross pollution from cattle and from manured land, or to the water being at a considerable distance from the houses to be supplied, or by both conditions being present. Under the circumstances first mentioned impure water is used from time to time for dietetic purposes; under the second an inadequate amount is used for maintaining a sanitary condition of houses and their surroundings.

SEWERAGE AND SEWAGE DISPOSAL.

With regard to the sewerage schemes prepared and considered for Ovingham and Wylam (north side) the former village was, during the year, provided with two sewage disposal works; one at the west and another at the east portion of the village, and plans for new sewage disposal works and new main sewers for Wylam on the north side were approved by the Hexham District Council and await confirmation by the Local Government Board.

The sewage disposal works for Prudhoe Castle, Prudhoe, Low Prudhoe, and West Wylam, commenced in 1905, were completed in the year under

review. A scheme of sewage extension at Prudhoe was considered, the object in view being the connecting of a portion of the district, previously unconnected, with the new sewage disposal works.

A scheme of sewerage and sewage disposal was completed during the year in the Cramlington Urban District with the object of obviating the pollution of the Seaton Burn.

At Haydon Bridge the main sewer on the north side of the village was diverted from the river at the bridge end and carried to the new sewage disposal works provided near the gas works.

At the request of the Glendale Rural District Council the county medical officer inspected the sewage disposal works provided for Wooler during 1905, and reported fully to the district council the conditions which, in his opinion, interfered with the satisfactory working of this installation, and suggested certain alterations calculated to bring about a satisfactory result.

Various sewage disposal works, both for large populations and for small collections of houses, were inspected from time to time by the county medical officer. Samples of effluents were procured and submitted to chemical analysis in the laboratory of the health department.

DISINFECTION.

Facilities for efficient disinfection are, taking the county as a whole eminently unsatisfactory. While many sanitary authorities have procured Formalin lamps or sprays no addition was made during the year to the number of steam disinfectors.

Some authorities disinfect houses after the death or removal of a Phthisical patient, but in several districts the obligation resting upon the sanitary authority to disinfect washable clothing, under the Midwives Act, was systematically ignored.

SCAVENGING.

In some of the urban districts removal of house and other refuse was carried out in a satisfactory manner by the sanitary authority.

In other districts the work was, as before, let to a contractor, the results being anything but uniformly satisfactory. In the No. 2 division of the Tynemouth Rural District, scavenging was again carried out by the council's own men more efficiently, and at less cost, than when let to contractors.

In colliery districts scavenging was frequently performed by the different coal companies and in rural districts was generally let to contractors or carried out by neighbouring farmers at long and irregular intervals, that is to say, whenever it interfered least with farming operations.

It has on previous occasions been indicated that scavenging can be carried out more regularly, more thoroughly and more economically by the sanitary authority than by contractors, and the truth of this statement has been proved in more than one instance where the experiment has been fairly tried and strict accounts have been kept.

ISOLATION HOSPITALS.

The following sanitary districts had isolation hospital accommodation:—

Boroughs.—Berwick-on-Tweed, Morpeth and Wallsend.

Urban Districts.—Alnwick, Amble, Ashington, Bedlingtonshire, Blyth, Cowpen, Cramlington, Earsdon, Gosforth, Hexham, Newbiggin-by-the-Sea, Newburn, Rothbury, Seghill, Whitley and Monkseaton and Willington Quay.

Rural Districts.—Alnwick, Belford, Castle Ward, Glendale, Hexham, Morpeth, Norham and Islandshire, Rothbury, Tynemouth No. 1 and Tynemouth No. 2.

The amount of hospital accommodation available for infectious disease was as shown in the subjoined table :—

	Popula- tion served.	Number and kind of hospitals provided.	Diseases to be treated.	No. of beds provided.
JOINT HOSPITAL DISTRICTS.				
<i>Earsdon Joint Hospital Dis- trict serving</i>				
The urban district of Earsdon ...	49,822	Two, both iron and wood buildings :—	Small-pox ... Infectious dis- eases other than Small- pox	20 24
Do. do. Seghill ... Do. do. Whitley and Monkseaton				
The rural district of Tynemouth		One at Scaffold Hill ... Do. at Earsdon Grange		
<i>Gosforth, Newburn, and Castle Ward Joint Hospital District serving</i>				
The urban district of Gosforth ...	38,468	Permanent buildings ...	do. ...	32
Do. do. Newburn ...				
The rural district of Castle Ward ...				
<i>Wallsend and Willington Quay Joint Hospital serving—</i>				
The borough of Wallsend ...	34,421	Do. ...	do. ...	30
The urban district of Willington Quay ...				
The urban and rural districts of Alnwick ...	19,486	Iron and wood building	do. ...	12
Urban district of Rothbury ...	6,255	Do. ...	do. ...	12
Rural do. do. ...				
HOSPITALS PROVIDED BY INDIVIDUAL SANITARY AUTHORITIES.				
Borough of Berwick-on-Tweed ...	13,420	{ One temporary hospital Wooden huts ... Permanent building ...	Infectious dis- eases other than Small- pox Small-pox ... Small-pox or other infec- tious diseases	8 8 22
Do. Morpeth ...	6,462			
Urban district of Alnwick ...	6,800	One permanent building	Infections dis- eases other than Small- pox	8
Do. do. Amble ...	6,000	Temporary hospital ...	Small-pox ...	4
Do. do. Ashington ...	19,200	{ One iron building ... Permanent building ...	do. ... Infectious dis- eases other than Small- pox	10 24
Do. do. Bedlingtonshire	22,500	{ One permanent hospital Iron and wood building	Small-pox ... Infectious dis- eases other than Small- pox	20 10
Do. do. Cramlington ...	6,700	One iron and wood build- ing	Small-pox or other infec- tions diseases	12
Do. do. Gosforth ...	12,500	Do. ...	Small-pox ...	8

	Popula- tion served.	Number and kind of hospitals provided.	Diseases to be treated.	No. of beds provided.
HOSPITALS PROVIDED BY INDIVIDUAL SANITARY AUTHORITIES— <i>continued</i> .				
Urban district of Hexham ...	8,250	Two iron and wood buildings	1 for Small pox 1 for Infectious diseases other than Small-pox	20
Do. do. Newbiggin-by-the-Sea ...	2,550	One wooden hospital ...	Small-pox ...	4
Do. do. Newburn ...	14,765	One iron and wood hospital	do. ...	4
Rural do. Belford ...	5,242	Do. ...	do. ...	8
Do. do. Castle Ward ...	11,203	Wooden hospital ...	do. ...	12
Do. do. Glendale ...	8,770	Two cottages ...	do. ...	8
Do. do. Hexham ...	27,947	{ One iron and wood hospital Do. ...	do. ... Infectious diseases other than Small-pox	12 8
Do. do. Morpeth ...	17,400	Do. ...	Small-pox ...	12
Do. do. Norham and Islandshire ...	6,054	Do. ...	do. ...	10
RiverTynePortSanitaryAuthority		Floating hospital ...		
Do. Blyth do. do. ...		Permanent building ...	Small-pox or other infectious diseases	24
SANITARY AUTHORITIES HAVING NO HOSPITAL OF THEIR OWN BUT HAVING MADE ARRANGEMENTS FOR PATIENTS TO BE RECEIVED BY NEIGHBOURING SANITARY AUTHORITIES:—				
Urban district of Blyth ...	6,459	Patients from this district are received into the hospital of the Blyth Port Sanitary Authority		
Do. Cowpen ...	19,950	Do.		
SANITARY AUTHORITIES WITHOUT ANY HOSPITAL FOR INFECTIOUS DISEASES AND WITH NO ARRANGEMENTS WITH NEIGHBOURING SANITARY AUTHORITIES:—				
Urban district of Weetslade ...	5,453			
Rural do. Haltwhistle ...	9,215			
Do. do. Bellingham ...	6,000			

The number of cases treated in these institutions during the year was 296, distributed as follows:—*Boroughs*—Morpeth, 14; Wallsend, 71. *Urban Districts*—Alnwick, 3; Ashington, 17; Bedlingtonshire, 7; Earsdon, 7; Hexham, 6; Newburn, 130; Willington Quay, 19. *Rural Districts*—Castle Ward, 10; Hexham, 6; Rothbury, 1; Tynemouth No. 1, 1; Tynemouth, No. 2, 4.

The population of the 29 sanitary districts possessing isolation hospitals, or having made arrangements for the use of isolation hospitals provided in neighbouring districts was 325,346, and the number of beds was 414, giving an average of one bed for every 785 persons. The population of the three sanitary districts (the urban district of Weetslade and the rural districts of Bellingham and Haltwhistle) having made no arrangements for the isolation of infectious diseases was 20,668.

BACTERIOLOGICAL INVESTIGATIONS.

The number of specimens sent for examination during the year was 920, compared with 289 in 1905. The number of districts sending specimens was 31.

Months.	Phthisis.			Enteric Fever.			Diphtheria.			Total Specimens Examined.		
	Specimens Examined.	Positive.	Negative.	Specimens Examined.	Positive.	Negative.	Specimens Examined.	Positive.	Negative.	Positive.	Negative.	Total.
January	26	12	14	4	1	3	34	16	18	29	35	64
February	21	6	15	2	—	2	18	6	12	12	29	41
March ...	33	13	20	2	1	1	22	13	9	27	30	57
April ...	25	8	17	2	—	2	23	8	15	16	34	50
May ...	32	10	22	8	4	4	17	7	10	21	36	57
June ...	17	8	9	3	1	2	23	10	13	19	24	43
July ...	33	15	18	7	3	4	27	6	21	24	43	67
August ...	20	9	11	13	7	6	18	9	9	25	26	51
September	26	11	15	14	9	5	33	14	19	34	39	73
October ...	26	5	21	13	6	7	100	30	70	41	98	139
November	32	13	19	18	8	10	111	35	76	56	105	161
December	28	10	18	4	3	1	85	20	65	33	84	117
Totals ...	319	120	199	90	43	47	511	174	337	337	583	920

The facilities provided by the county council for bacteriological examination of swabs from suspected cases of Diphtheria proved of the greatest possible value, not only as an aid to early diagnosis but also in determining the time at which children debarred from school attendance could resume attendance at school without risk of spreading the disease. The opinion has sometimes been expressed that the large number of examinations showing a "negative" result is unsatisfactory inasmuch as they at first sight seem to indicate expense unnecessarily incurred. This, however, is a mistaken construction to put upon these results, since as a matter of diagnosis it is most satisfactory to know that cases which exhibited clinical signs of Diphtheria are not true cases of this disease. In addition there is the far-reaching question of school attendance, in connection with which bacteriological investigations are if possible of still greater value.

One hundred and twelve medical practitioners in the county availed themselves of the facilities provided by the county council for the examination of specimens bacteriologically.

In two sanitary districts no use was made, in the year under consideration, of the above-named opportunities for the bacteriological examination of specimens taken from subjects of suspected infectious disease.

PORT SANITARY AUTHORITIES.

THE RIVER BLYTH PORT.

Medical Officer of Health, JOHN CROMIE, L.R.C.P., L.R.C.S.

Inspection of Vessels.—During the year the following inspections of vessels were carried out:—

British steamers	...	...	...	...	942
British sailing vessels	...	...	...	...	67
Foreign steamers	...	...	...	...	1,758
Foreign sailing vessels	...	...	...	...	110
Total number of visits					2,877

Of the above vessels 1,310 arrived from British home ports, and 1,567 came from other ports.

In addition to the above mentioned visits of inspection, a considerable number of extra visits were paid for the purpose of insuring necessary structural and sanitary alterations.

Structural defects were discovered and remedied in thirty-two vessels, and sanitary defects were remedied in two hundred and twenty-three cases.

About thirty ships were visited by the Medical Officer of Health on account of reported or suspected sickness on board.

The following cases were admitted into the hospital during the year from vessels arriving from home or foreign ports:—Erysipelas 1, Scarlet fever 1, Small-pox 1. Also three cases were admitted from the Cowpen district.

Nineteen cases of sickness were reported as having occurred during the voyage.

No cases of Cholera, Yellow Fever, or Plague occurred in the port during the year.

RIVER TYNE PORT.

Medical Officer of Health, WM. E. HARKER, M.D., D.Hy.

Inspection of Vessels.—During the year the following inspections of vessels were carried out:—

British steamers	...	...	...	...	3,825	
British sailing vessels	...	...	...	...	242	
British fishing vessels	...	...	...	...	1,414	
					5,481	
Foreign steamers	...	...	...	...	2,241	
Foreign sailing vessels	...	...	...	...	314	
					2,555	
Extra visits paid in addition to those mentioned above					362	
Water Boats and Gangways—						
Visits to water boats	...	...	...	...	...	18
Visits to gangways...	...	...	...	...	...	17
Total number of visits					8,433	

Vessels from Infected or Suspected Ports.—One hundred and six vessels were visited by the Medical Officer of Health on account of reported or suspected sickness on board.

Four hundred and forty-eight cases of sickness were reported as having occurred during the voyage. This total included among others:—Small-pox or suspected Small-pox, 15; Enteric fever, 28; Diarrhoea or Choleraic Diarrhoea, 14; Beri-Beri, 7; Bronchitis, 9; Pneumonia and Pleurisy, 10; Diphtheria, 6; and Accidents, 57.

No case of Cholera or Plague was reported during the year.

General Sanitary Work.—The Port Sanitary Inspectors paid 8,398 visits to British and foreign vessels, besides the inspection of water boats and gangways mentioned above. Of the vessels inspected, 1,428 had structural defects or were in a dirty condition.

The Inspectors also examined 1,553 consignments:—Onions 3, Wheat 75, British and Foreign Fish 1,414, Potatoes 9, Fruit 48, Rags 1, Cattle 3.

Cleansing and Disinfection.—In 66 cases the drinking water of ships which came from ports infected or suspected to be infected with Cholera was changed, and the purification of tanks was seen to by the Inspector acting under the direction of the Medical Officer of Health. Thirty-one vessels and several lots of clothing or bedding were disinfected, 205 old beds were burnt, and eight lots of filthy clothing were destroyed on account of infection.

Emigrants.—The number of emigrants passing through the Tyne Port during 1906, so far as was known, was as follows:—

For America by	White Star Line from Liverpool	...	...	1,209			
”	”	Cunard Line	”	”	...	...	1,355
”	”	American Line	”	”	...	...	409
”	”	Allan Line	”	”	...	...	361
”	”	Anchor Line from Glasgow	...	...	...	...	256
”	”	Dominion Line from Liverpool	...	...	...	...	114
”	”	Canadian Pacific	...	...	...	...	173
							<hr/>
							3,877
							<hr/>

being an increase of 1,234 as compared with the previous year.

Floating Hospital.—The following cases were admitted to the Floating Hospital during the year:—Small-pox 3, Enteric fever 11, Beri-Beri 1, Diphtheria 1, Measles 1, Chicken-pox 1, Peritonitis 1, and Pneumonia 1.

RIVER TWEED PORT.

Medical Officer of Health, D. HEAGERTY, L.R.C.P., L.R.C.S., LM.

The sanitary authority of the borough of Berwick-on-Tweed constitutes the River Tweed Port Sanitary Authority. No reference to inspection of vessels is made in the medical officer's report.

BOROUGHES.

BERWICK-ON-TWEED.

Medical Officer of Health, D. HEAGERTY, L.R.C.P., L.R.C.S., L.M.

Area, 6,396 acres ; estimated population, 13,420 ; birth rate, 25.55 ; general death rate, *17.58 ; zymotic death rate, 0.74 ; infant mortality rate (per 1,000 births), 150.88 ; phthisis death rate, 0.52 ; death rate from respiratory diseases, 1.34.

Of the above rates the birth rate, the phthisis death rate and the respiratory death rate have decreased by 0.36, 0.67 and 0.44 respectively ; the remainder of the rates have increased as follows :—General death rate, 0.67 ; phthisis death rate, 0.37, and the infant mortality rate by 34.27.

Three hundred and thirty-eight births were registered during the year, and two hundred and thirty-six deaths ; of the latter fifty-one were of children under one year, and one hundred and five of persons sixty-five years and upwards.

The birth rate for Berwick was again lower than that for the other divisions of this borough ; during 1906 it was higher in Spittal than in Tweedmouth.

The following table shows that of the three divisions of this borough Tweedmouth enjoys an unenviable notoriety. It will be seen that in this division the general death rate, the infant mortality rate, the zymotic death rate and the attack rate from infectious diseases were all higher than in the other divisions :—

Sub-districts.	Popu- lation.	Births.		Deaths.		Infant deaths.		Zymotic deaths.		Infectious diseases.	
		Number.	Rate.	Number.	Rate.	Number.	Rate.	Number.	Rate.	Number.	Attack rate.
Berwick ...	8,270	195	23.57	154	18.62	26	133.33	1	0.12	30	3.66
Tweedmouth ...	3,080	82	26.62	63	20.45	13	219.51	9	2.92	37	12.01
Spittal ...	2,070	61	29.46	25	12.07	7	114.75	0	Nil.	15	7.24
Whole district...	13,420	338	25.19	242	18.03	51	150.88	10	0.74	82	6.11

The infant mortality for the whole borough was 34 per 1,000 births higher than during the previous year.

Eighty-two cases of infectious disease were notified as follows :—Diphtheria, 19 ; Erysipelas, 8 ; Scarlet fever, 41 ; Enteric fever, 13 ; and Puerperal fever, 1.

Ten deaths occurred from zymotic disease, viz. :—Scarlet fever, 1 ; Whooping cough, 1 ; Diphtheria and Membranous croup, 4 ; Enteric fever, 3 ; and Diarrhoea, 1.

Phthisis caused 7 deaths ; Respiratory diseases, 18 ; Heart diseases, 39 ; Accidents, 5 ; and Premature birth, 7.

The Phthisis death rate for the whole borough was the second lowest recorded in the county during the year under consideration.

The medical officer draws attention to the overcrowded condition of some of the elementary schools which, added to want of ventilation, produces a stuffy and unhealthy atmosphere, rendering the children unable to derive any benefit from school attendance and being injurious to their health. The medical officer strongly advocates all children under five years being excluded from school.

The medical officer bewails the fact that the new scheme for supplying Tweedmouth and Spittal with water, adopted in 1905, had been thrown out and again points out the danger of depending upon the existing wells for a domestic water supply.

Improvements.—All the known cases of overcrowding were dealt with and considerable vigilance was exercised in ascertaining and remedying any fresh cases which arose. A very important step was taken in adopting regulations under the Dairies, Cowsheds and Milkshops Order, including a minimum air space for each cow of 600 cubic feet. The flooring and drainage of two cowsheds were improved; a stable below a living room was abolished; eleven cases of overcrowding were dealt with; a large number of nuisances in and about dwellings were removed; pail closets were substituted for privy ash-pits in five instances. A public w.c. and urinal were erected in the Berwick division; many rooms and articles of bedding, clothing, etc., were disinfected. The re-paving of carriage ways in West Street and Middle Street in Spittal and cementing of the footpaths were carried out.

Requirements.—These remain much the same in each division of the borough as indicated for the year 1905, viz.:—In Berwick the removal of “obstructive buildings” which are so placed that the sole means of access to dwelling houses is from or through narrow courts or alleys; the alteration of back to back houses and of other houses having no through ventilation, conditions which so greatly interfere with the admission of sunlight and the circulation of air, similar conditions being brought about in houses, though not built back to back with others, in which every room is let to a separate family.

In Tweedmouth the chief requirements are a greatly increased water supply, efficient drainage, the abolition of many pail closets placed in very undesirable situations and the provision of additional workmen’s houses.

With reference to the water supply the conditions are most serious, as the medical officer has on many occasions pointed out, and in his report for 1905 warns his Authority that unless a better water supply is procured this portion of the district “may be invaded by an epidemic of fever.” The water supply for Tweedmouth has for many years been most unsatisfactory; much of the water is procured from shallow wells liable to pollution; many of the inhabitants have to carry water for long distances, and during the year 1905 the water supply from two wells was permanently lost through building operations. It is well known what disastrous consequences resulted at Lincoln from the disregard by the sanitary authority of their medical officer’s warning. It appears that the experience at Lincoln may probably be repeated in this district.

In Spittal the chief requirements are an increased water supply and the alteration of houses not having through ventilation. The necessity for an increased water supply for Tweedmouth and Spittal has been admitted for several years, and the best means for providing the same have been discussed on many occasions. A considerable amount of money has also been spent in acquiring information and in making preliminary experiments with the result that an additional supply of excellent water has been obtained on the site of the borough’s water works. This supply, though not required by the Berwick division was denied to Tweedmouth and Spittal on being put to the vote. The present result is that the borough of Berwick-on-Tweed has much more water than is required for the Berwick sub-division, that the Tweedmouth and Spittal sub-divisions have an inadequate and Tweedmouth a dangerous supply, and that any use of the surplus water not required in Berwick is denied to Tweedmouth and Spittal.

The medical officer’s annual report should be printed and the five tables required by the Local Government Board should be incorporated in the report.

* 17·36 if the deaths of nine non-residents occurring in the district be deducted and if six deaths of residents occurring without the district be added.

MORPETH.

Medical Officer of Health, H. DICKIE, M.A., M.D.

Area, 328 acres; estimated population, 6,462; birth rate, 28.16; general death rate, *20.89; zymotic death rate, 2.47; infant mortality rate (per 1,000 births), 164.83; Phthisis death rate, 1.54; death rate from respiratory diseases, 3.24.

With the exception of the birth rate and the Phthisis death rate, which have decreased by 1.97 and 0.01 respectively, all the above rates have increased as follows:—General death rate, 0.71; zymotic death rate, 1.23; infant mortality rate, 51.43; and the respiratory death rate, 1.07.

The infant mortality rate which during the previous year had fallen by 66 per 1,000 births rose during 1906 to the extent of 51 per 1,000 births. The general death rate was the second highest both for urban districts and for the administrative county, and the death rate from respiratory diseases was the highest recorded in any district.

One hundred and eighty-two births were registered during the year, and one hundred and thirty-five deaths; of the latter thirty were of children under one year, and thirty-seven of persons sixty-five years and upwards.

Twenty-two cases of infectious disease were notified as follows:—Scarlet fever, 18; and Enteric fever, 4.

Sixteen deaths occurred from zymotic disease, viz.:—Whooping cough, 8; Enteric fever, 2; and Diarrhoea, 6.

Phthisis caused 10 deaths; respiratory diseases, 21; heart diseases, 15; accidents, nil; and premature births, 6.

It is satisfactory to note the freedom from infectious disease enjoyed by the borough compared with some previous years, though this was not so markedly noticeable as during the year 1905. During 1906 the only diseases notified were Scarlet fever (18 cases in the months of March, April, May, July, August, and September), and Enteric fever (4 cases during the months of May, August, September, and October). Twelve cases of the first-named disease and two suffering from Enteric fever were removed to hospital.

The medical officer again draws attention to the existence of small houses situated in narrow streets and courts rendering them liable to the well founded charge of being wanting in air space and making it difficult to keep them in a sanitary condition, and points out that it is only by careful supervision that such houses can be allowed temporarily as human habitations to the people who ought to be dispossessed of them.

The medical officer also suggests the appointment of a Town Improvement Committee to investigate and report upon the unsatisfactory conditions existing in various localities and emphasises the importance of houses being provided for the poorer working class either by private enterprise or by the Council under the Housing of the Working Classes Acts; also to the unsatisfactory condition of the cowsheds and to the necessity of abating the nuisance caused by throwing house refuse into the river or by burning rubbish on its banks.

The Factory and Workshop Act.—The factories on the register at the end of the year numbered twenty, the workshops twenty-two and the workplaces four. These were frequently visited and very little found worthy of complaint. Minor defects when pointed out were quickly remedied.

Improvements.—Some structural alterations were made in Vints Yard and Union Street, causing improvements both in light and ventilation. One dwellinghouse was closed and additional privy accommodation was provided in several localities. A great many cases of overcrowding were dealt with. A few houses were built during the year and plans were approved for several others as well as for alterations, improvements, or additions to existing property.

Pollution of the river by sewage was remedied in three localities and the work of testing and where necessary relaying house drains, which has done so much during the last few years to improve the sanitary condition of the town, was continued.

Considerable improvements were effected in the relaying and channelling of roads, the relaying of footpaths, the improvement of crossings, the provision of increased w.c. accommodation and the paving of several yards with impervious material. Also disinfection was carried out by the Council in a number of houses and in one of the schools on several occasions.

Requirements.—Additional house accommodation especially for the poorer members of the working classes was still urgently needed, the sanitary condition of some of the property in Union Street, Dogger Bank, Hampton Court, was in need of considerable improvement. A great many privy ash-pits or ash closets in confined situations still needed conversion into W.Cs. Several houses and tenements were wanting in through ventilation. Proceedings should be taken against all offenders under the Rivers Pollution Prevention Acts and the Council would be well advised to insist upon the water carriage system of excrement disposal for all new houses and for all houses rebuilt. The structural condition of several cowsheds needed attention as regards lighting, ventilation, floors, etc.

* 18.1 if nineteen deaths of non-residents occurring in the district be deducted and if the death of one resident occurring without the district be added.

WALLSEND.

Medical Officer of Health, T. WILSON, L.R.C.P., M.R.C.S.

Area, 1,158 acres; estimated population, 25,481; birth rate, 37.63; general death rate, *15.14; zymotic death rate, 1.80; infant mortality rate (per 1,000 births), 148.07; Phthisis death rate, 0.98; death rate from respiratory diseases, 2.43.

Of the above rates, the birth rates and the Phthisis death show a decrease as compared with the previous year of 1.04 and 0.10 respectively, while the remainder of the rates have increased as follows:—General death rate, 2.02; zymotic death rate, 0.63; infant mortality rate, 20.23; and the respiratory death rate, 0.59.

Nine hundred and fifty-nine births were registered during the year, and three hundred and eighty-six deaths; of the latter one hundred and forty-two were of children under one year, and fifty-six of persons sixty-five years and upwards.

The birth rate was the highest recorded in the administrative county, as was the case for the previous year.

One hundred and eighty-six cases of infectious disease were notified as follows:—Diphtheria and Membranous Croup, 54; Erysipelas, 24; Scarlet fever, 97; and Enteric fever, 11.

Forty-six deaths occurred from zymotic disease, viz.:—Measles, 6; Scarlet fever, 4; Whooping cough, 6; Diphtheria and Membranous Croup, 9; Enteric fever, 3; and Diarrhoea, 18.

Phthisis caused 25 deaths; Respiratory diseases, 62; Heart diseases, 27; Accidents, 9; and Premature birth, 14.

The exceedingly low death rate recorded in 1905 was unfortunately somewhat increased during 1906, as was also the infant mortality rate.

The chief incidence of both the Scarlet fever and Diphtheria outbreaks was upon the Holy Cross and Carville sub-divisions.

It was again satisfactory to note 38 per cent. of all cases notified were treated in the excellent isolation hospital belonging to this and the adjoining sanitary authority.

Factories and Workshops.—No mention is made of these in the Medical Officer's report, except that he "encloses a list which he has sent to the Home Office." The list (or table) is not included with his annual report. The Inspector states that there were 48 workshops on the register. The number of factories is not given.

Improvements.—A considerable number of new houses were built, and the Medical officer remarks upon the increased size of rooms in some of the above. Scavenging operations were again carried out by the Council's men, all the privy ashpits in Thames Street and Clyde Street (north side) were replaced by w.c.'s or ashclosets.

Requirements.—The Medical Officer draws attention to the necessity of public abattoirs in this populous district, without which the necessary supervision of meat prepared for human food cannot be carried out. Increased hospital accommodation was much needed.

If the Council adopted the recommendation of the Medical Officer, and appointed one or more Lady Health visitors, the beneficial results of their action would soon be evident.

* 14,71 if the deaths of 11 non-residents occurring in the district be deducted.

URBAN DISTRICTS.

ALNWICK.

Medical Officer of Health, R. B. ROBSON, M.B., M.R.C.S.

Area, 4,777 acres; estimated population, 6,800; birth rate, 25.14; general death rate, *19.26; zymotic death rate, 1.02; infant mortality rate (per 1,000 births), 116.05; Phthisis death rate, 1.76; death rate from respiratory diseases, 1.61.

With the exception of the birth rate and the respiratory death rate, which have decreased by 1.91 and 0.44 respectively, the above rates have, as compared with the previous year, increased as follows:—General death rate, 1.61; zymotic death rate, 0.14; infant mortality rate, 35.43; and the Phthisis death rate, 0.15.

The general and Phthisis death rates were each the third highest recorded in the administrative county.

One hundred and seventy-one births were registered during the year, and one hundred and thirty-one deaths; of the latter twenty were of children under one year, and forty-three of persons sixty-five years and upwards.

Ten cases of infectious disease were notified as follows:—Diphtheria, 1; Scarlet fever, 8; and Puerperal fever, 1.

Seven deaths occurred from zymotic disease, viz.:—Whooping cough, 6; and Diarrhoea, 1.

Phthisis caused 12 deaths; respiratory diseases, 11; heart diseases, 16; accidents, 2; and premature birth, 3.

The medical officer again divided his district into "town," that portion served by the public sewers, and "country," comprising Alnwick Moor and a few outlying houses; (he further divided the "town" portion into two parts, one of which represents the more congested part of the town, the other the less densely populated); he shows in tables that while in the less densely peopled locality the birth rate is considerably higher (30 as compared with 24.7 per 1,000) than in the other sub-division, in the latter the death rate from all causes as well as from zymotic and respiratory diseases, and also the infant mortality rate, were markedly higher than in the division in which the inhabitants live under more healthy conditions.

The cases of notifiable infectious disease were again remarkably few, and of the ten cases notified three were removed to hospital.

Of non-notifiable infectious diseases Whooping cough caused six deaths, and as five of the latter occurred among children under 12 months the infant mortality rate was thereby considerably raised. Only one death was attributable to summer Diarrhoea.

It is to be hoped that the very remarkable immunity which the town has enjoyed during the years 1903-4-5 and -6 from Enteric fever and Diphtheria will not be used as an argument in favour of the overcrowding of houses on land or of the overcrowding of houses by inmates. It is well known that the above diseases are liable to visit districts in waves, and no doubt with a feeling that the recent freedom from the above-named diseases cannot be expected to continue, the medical officer strongly advocates the provision of Anti-Diphtheritic serum by the sanitary authority in necessitous cases, on the same principle that hospital accommodation is provided, and points out the great reduction in the mortality from Diphtheria effected by the adoption of the above treatment, as well as the influence it exerts in checking the spread of disease.

Factory and Workshop Act, 1901.—Fifty-nine workshops were on the register at the end of the year; sixteen defects were found, all of which were remedied.

Improvements.—Though no very definite steps were taken towards the removal of obstructive buildings or the opening out of narrow courts closely packed with houses and inmates, several cases of overcrowding in houses were dealt with and many minor improvements were effected in the surroundings of houses. Various methods were considered for augmenting the present very inadequate water supply and boring operations were carried out with some measure of success to the west of Rugley Wood.

About 16 houses were either completed or were in process of erection during the year and the cattle market scheme made considerable progress.

The Inspector got through a large amount of work in the way of testing old house drains, many of which being found faulty were relaid on better principles and with more sanitary materials; sewers were flushed where required provided that water was available, and the more cleanly condition of yards and courts which was so noticeable during the year 1905 was again well maintained during the year under review. The last-named condition can only have been brought about by regular, continuous, and persistent supervision, by which an Inspector does not gain the love of those for whose benefit he is daily striving, but will have the satisfaction of knowing how great an influence cleanly surroundings exert on the health of the people.

The Small-pox hospital for the joint use of the urban and rural districts was completed, and important improvements were effected in the road surfaces, footpaths, and crossings.

Requirements.—A plentiful supply of water and greatly increased storage capacity continued up to the end of the year to be the most urgent and still unfulfilled requirement of this district. In order to eke out the scanty supply available the town mains were of necessity shut off during 14 nights and pumping at the Culvert Springs was resorted to on 30 days. The medical officer points out the drawback of both the above conditions, as “under former conditions we were exposed to the risk of an intermittent supply, while now we are faced with the dangers of impurities from Rugley Burn.”

A sewage disposal scheme for Canongate and the necessary alterations to the main sewage disposal works were at the end of the year still unaccomplished.

The medical officer points out that the necessity still exists for houses adapted to the needs of the purely labouring class, and until such are erected the town must suffer from overcrowding in various parts. Under present conditions the suppression of congestion in one district only intensifies it in another.

The erection of the 56 houses in King Street in no way lessened the evil of overcrowding, the abatement of which as a sanitary measure stands, perhaps, next in importance to the provision of a satisfactory water supply.

* 18·08 if the deaths of eight non-residents occurring within the district be deducted.

AMBLE.

Medical Officer of Health, H. M. STUMBLES, M.B., Ch.B.

Area, 1,258 acres; estimated population, 6,000; birth rate, 25.83; general death rate, 11.66; zymotic death rate, 0.66; infant mortality rate (per 1,000 births), 116.12; Phthisis death rate, 0.83; death rate from respiratory diseases, 1.5.

With the exception of the birth rate, which has, in comparison with the previous year, decreased by 3.97, all the above rates have increased as follows:—General death rate, 0.46; zymotic death rate, 0.06; infant mortality rate, 8.74; Phthisis death rate, 0.43; and the respiratory death rate, 1.3.

The zymotic death rate was the third lowest recorded in urban districts.

One hundred and fifty-five births were registered during the year, and seventy deaths; of the latter eighteen were of children under one year, and fourteen of persons sixty-five years and upwards.

Twenty-four cases of infectious disease were notified as follows:—Diphtheria and Membranous Croup 11, Erysipelas 11, and Scarlet fever 2.

This number (24) compares favourably with thirty in 1905, and eighty-eight in 1904.

Four deaths occurred from zymotic disease, viz., from Diphtheria.

Phthisis caused 5 deaths; respiratory diseases, 9; heart diseases, 8; accidents, 1; and premature birth, nil.

Factory and Workshop Act.—There were in the district seventeen factories and thirty-two workshops. These were regularly inspected, and the suggestions made with reference to defects found were carried out.

The medical officer calls attention to the extreme value of Anti-toxin in the treatment of Diphtheria as, by its use, not only have many lives been saved, but by reducing infection, epidemics have been avoided. He suggests that the Authority should provide Anti-toxin for the use of necessitous cases.

Improvements.—Several additional houses were built during the year. Considerable energy was evinced by the Council in ascertaining the exact conditions of overcrowding existing in their district. The Surveyor presented an exhaustive report, in which were included all the instances of overcrowding of houses on area, of obstructive buildings, of overcrowding in houses, and of insanitary dwellings. The Works Committee having made an inspection of the various properties, reported to the Council the alterations they recommended to be carried out, and the Council served notices upon the different owners to do the necessary work. Two tenants received notice to quit with a view to the houses being demolished, and one house is now used as a workshop. In about twenty instances privy ashpits were abolished and w.c.'s substituted. One house was provided with an additional window, which will secure increased light and better ventilation.

A scheme was considered for still further increasing the Council's abundant supply of water.

Means were provided for the efficient disinfection of houses and schools.

Requirements.—Some of the requirements of this district at the end of 1906, as during the previous year, were the providing of through ventilation for several houses, this being especially desirable in one-roomed houses, occupied night and day, and during the greater portion of the year closed for many hours in succession. A considerable number of one-roomed tenements were still in existence.

The substitution of w.c.'s for privy middens and for many insanitary ash closets, this action being more particularly urgent in localities where, owing to the surrounding buildings, but little air circulates, and where the contents of privy middens are wheeled out, in some cases, through narrow passages.

The removal of the nuisance caused at the foot of the Wynd by the polluted condition of the burn, and in more than one situation by large uncovered manure middens in close proximity to dwellings. Structural alterations were still needed at two of the elementary schools, both as regards the school buildings and the outoffices. Increased ventilation for some of the sewers, especially in the lower part of the town.

The Council would be well advised to provide a caretaker for the hospital; the building and its contents would not only by this step be kept aired and ready at all times for immediate use, but wanton damage and thefts would be obviated.

The medical officer again calls attention to the need of a mortuary.

ASHINGTON.

Medical Officer of Health, R. J. MILLS, M.B., B.S.

Area, 2,870 acres; estimated population, 19,200; birth rate, 37.55; general death rate, 16.35; zymotic death rate, 1.71; infant mortality rate (per 1,000 births), 188.62; Phthisis death rate, 0.93; death rate from respiratory diseases, 1.19.

Of the above rates the birth rate, the Phthisis death rate, and the respiratory death rate have decreased by 1.73, 0.10, and 0.01 respectively, as compared with the previous year; while the remaining rates have increased as follows:—General death rate, 1.27; zymotic death rate, 0.57; and infant mortality rate, 13.38.

Seven hundred and twenty-one births were registered during the year, and three hundred and fourteen deaths; of the latter, one hundred and thirty-six were of children under one year, and twenty-four of persons sixty-five years and upwards.

Two hundred and eight cases of infectious disease were notified as follows:—Diphtheria and Membranous Croup 45, Erysipelas 37, Scarlet fever 96, Enteric fever 20, Continued fever 9, and Puerperal fever 1.

In addition to the above, Measles and Whooping cough were epidemic during the summer months, Mumps was very prevalent in the autumn, and during November and December many cases of Influenza occurred.

Thirty-three deaths occurred from zymotic disease, viz.:—Measles 9, Scarlet fever 2, Whooping cough 5, Diphtheria and Membranous Croup 7, Enteric fever 6, and Diarrhoea 4.

Phthisis caused 18 deaths; respiratory diseases 23; heart diseases 16; accidents 8; and premature birth 24.

The fall in the general death rate, the zymotic death rate, and the infant mortality rate, which was recorded for the year 1905, was not maintained during the year under review. The infant mortality rate was the third highest recorded in the administrative county. All the above rates, however, were below the average for the ten years 1896–1905.

The district is divided into two wards—Ashington and Hirst—and the medical officer gives some interesting tables which indicate for each month the number of births and deaths which occurred in each ward, the age periods at which the deaths took place and also the causes of death; similarly for infectious diseases the number of cases of each disease notified as well as the month and locality in which they occurred and the age period at which the patients were attacked.

The population of the Ashington division was estimated to be 7,000, and of the Hirst division 12,200, indicating an increase of 100 in Ashington and of 800 in Hirst since the previous estimation.

The birth rate in Hirst was as usual greatly in excess of the birth rate in Ashington, being 44.1 per 1,000 in the former and 26.0 per 1,000 in the latter division.

The death rate in the Hirst division (19.8 per 1,000) was also much higher than in Ashington (10.2).

The infant mortality rate (deaths per 1,000 births registered) was in Hirst 207.8, and in Ashington 120.8.

The higher birth rate in Hirst is no doubt accounted for by the greater proportion of young married people in that division, and as so many children's lives are sacrificed during their first year of existence, it follows that a high birth rate almost invariably means a high infant mortality rate. A high birth rate also adversely affects the general death rate since the latter refers to deaths at all ages.

Factory and Workshop Act.—The number of factories and workshops remained the same as during the previous year. They entailed over one hundred visits of inspection, though their sanitary condition appears to have been almost uniformly excellent.

Improvements.—Several additional houses were built and various improvements effected in streets, footpaths, lighting, &c. In connection with the above the medical officer remarks, "The new houses erected have been in accordance with the bye-laws. The more rigorous enforcing of these has resulted in better sized rooms, better sanitary arrangements, and better conformity in respect to street lines. New streets are being laid down and in a satisfactory manner. The widening of footpaths proceeds as opportunity offers, the alterations in front of the parish church and St. Aidan's contributing a great improvement, as are also the extension of paths and planting of trees in the park. Additional electric lamps have been provided to meet the growing needs of the district."

During the year the Council became the Water Authority for the district, and improvements were effected in the water distribution in the Hirst division.

Regulations under the Dairies, Cowshed, and Milkshops Order were adopted, and it was decided to remove the tips for house and other refuse to a greater distance from dwellings. The hospital was supplied with electric light, and several alterations in the administrative department were suggested by the medical officer and approved by the council. The above mentioned improvements at the hospital will greatly add to the comfort and general well-being of the patients, to the work of the institution being carried out more smoothly and more expeditiously, and in addition to a trained nurse being in permanent residence, will add to the popularity of the hospital among those for whose use it has been provided. The council again provided Anti-toxin, which was used with marked success.

Requirements.—The medical officer draws attention to the polluted condition of Haydon lech, which is the natural water supply for stock in the fields through which it flows, and to the necessity of adopting measures to stop the continued practice of throwing vegetable matter into the ashpits by which serious nuisances are created. A bye-law for compelling the provision of w.c.'s for all new property. A destructor for dealing with house and other refuse, instead of storing it as mountains of filth and decomposition, as under the present system of refuse disposal.

BEDLINGTONSHIRE.

Medical Officer of Health, R. S. TROTTER, M.D., C.M.

Area, 8,533 acres; estimated population, 22,500; birth rate, 33.42; general death rate, 15.77; zymotic death rate, 3.06; infant mortality rate (per 1,000 births), 158.24; Phthisis death rate, 0.84; death rate from respiratory diseases, 1.37.

Of the above rates the general death rate, the Phthisis death rate and the respiratory death rate have decreased by 0.18, 0.23 and 0.72 respectively, as compared with the previous year; the remaining rates have increased as follows:—Birth rate, 0.35; zymotic death rate, 1.7; and the infant mortality rate, 3.38.

This district and the urban district of Earsdon are the only localities in the administrative county in which both the birth rate has risen and the general death rate fallen during the year.

The zymotic death rate was the second highest in the county.

Seven hundred and fifty-two births were registered during the year, and three hundred and fifty-five deaths, of the latter one hundred and nineteen were of children under one year, and fifty-nine of persons sixty-five years and upwards.

Ninety-five cases of infectious disease were notified as follows:—Diphtheria 6, Membranous Croup 1, Erysipelas 15, Scarlet fever 56, Enteric fever 15, and Continued fever 2.

Sixty-nine deaths occurred from zymotic disease, viz:—Measles 20, Scarlet fever 3, Whooping cough 20, Diphtheria and Membranous croup 3, Enteric fever 2, and Diarrhœa 21.

Phthisis caused 19 deaths; respiratory diseases, 31; heart diseases, 42; accidents, 18; and premature birth, 22.

This district was as usual divided by the Medical Officer into seven localities, in each of which it was estimated that the population had increased, giving an increase for the whole district of 2,000.

Sub-districts.	Popu- lation.	Births.		Deaths.		Infant deaths.		Zymotic deaths.		Notifications of infectious disease.	
		No.	Rate.	No.	Rate.	No.	Rate.	No.	Rate.	No.	Rate.
Barrington ...	1,088	41	37·68	19	17·46	5	121·9	3	2·75	10	9·1
Bedlington ...	5 963	196	32·87	96	16·06	28	142·8	24	4·02	31	5·2
Cambois ...	2,626	86	32·74	35	13·32	11	127·9	2	0·75	13	4·9
Choppington	5,819	204	35·05	100	17·18	35	171·5	17	2·92	20	3·4
Netherton ...	1,294	52	40·18	20	15·45	8	153·8	10	7·74	3	2·3
Sleekburn ...	4,232	136	32·13	65	15·35	26	191·1	11	2·59	14	3·3
East and West Sleekburn...	1,478	37	25·03	20	13·53	6	162·1	2	1·35	4	2·7
Whole district	22,500	752	33·42	355	15·77	119	158·24	69	3·06	95	7·3

The Medical Officer gives some interesting and valuable tables in which are set out for each sub-division, the population, births registered, deaths at all ages and deaths under one year, also the number of cases of infectious disease notified. From one of the above-named tables it appears that the general death rate was below the average for the whole district in Cambois, Netherton and East and West Sleekburn, and above the average in Choppington, Bedlington and Barrington.

Among the notifiable infectious diseases prevalent in the district may be mentioned Scarlet Fever (56 cases, chiefly in Bedlington, Choppington and Cambois); Enteric and Continued Fever (17 cases, more than half of which occurred in Barrington); Erysipelas (15 cases, nearly all in Bedlington, Choppington and Sleekburn); and Diphtheria (7 cases, distributed between Sleekburn, Cambois, Bedlington and Netherton). Each of the districts of East and West Sleekburn and Netherton provided less than five cases of the above diseases. Each of the other sub-divisions from ten to thirty-one cases.

The attack rate per 1,000 population was markedly higher in Barrington, Bedlington and Cambois, in the order named, than in the other sub-divisions.

Of non-notifiable diseases Measles, Whooping Cough, Zymotic Enteritis and Epidemic Ophthalmia were prevalent; the last-named disease being of a virulent type seriously interfered with school attendance.

The Medical Officer makes the following pertinent remarks referring to the unnecessary and altogether inexcusable waste of infant life:—

“The infantile mortality rate taken in connection with the birth rate is a very serious subject for consideration. It shows that there is in the district, especially if Table V. is carefully considered, an appalling amount of ignorance on the part of mothers of their responsibilities as such, a desire to escape the responsibilities of motherhood, a woeful lack of knowledge and a calamitous carelessness in the rearing of infants.”

“In connection with this subject several points may be brought forward as bearing directly on it in our district :—

Ill-considered marriages, particularly of immature minors utterly ignorant of the management of a house and still more so of the rearing of children.

Irregular and wrong methods of feeding, with the result that the unfortunate child who even in its immature state shews more sense than the person who is feeding it, dies for want of the power to resist the feeding onslaught of its ignorant guardians.

The neglect of breast feeding.

The failure to protect milk from dust and flies.

The use of long tube bottles which cannot be kept clean.

The use of patent foods.

The deprivation of fresh air, especially at night in overcrowded rooms.

The non-provision of loosely fitting woollen clothing.

The prevention of waste of infant life from such causes depends to a large extent on the education of prospective parents. It is well, therefore, that the Education Committee of the Council is providing for the teaching of domestic and personal hygiene, for once these subjects are properly grasped by the people there will be a marked tendency towards the reduction of infantile mortality.

Investigation in all cases of death from any of the above causes by the legal authorities would I believe still further reduce the number of deaths, more especially if a post mortem examination of the body of the infant were always insisted upon and a rigorous enquiry into the methods upon which the child had been reared made a *sine qua non* before a certificate for burial were granted. In the event of such enquiry being made public the moral effect would be such that in the majority of cases thoughtless parents would be compelled to think, even if it were only to think what their excuses would be, and if they did devote more thought to the healthy rearing of their offspring the result would certainly be a reduced mortality from such preventible causes.”

The Medical Officer also bears his testimony to the great educational influence in these and other matters exerted by district nurses and considers them to be the best kind of health visitors.

Factory and Workshop Act.—Seventy-eight workshops were on the register, and inspection of these premises again entailed a considerable amount of work upon the officials of the council; one hundred and fifteen visits were paid, and several defects, many of them amounting to want of cleanliness, etc., were found. All, however, were remedied without any legal proceedings being taken.

Improvements.—More than one hundred new houses were occupied during the year and a large number more were in course of erection.

Several extensions of water mains were laid and additional stand pipes provided in some localities.

Good progress was made with the new main sewer from Bank Top to Bedlington; new sewers were laid and old sewers and drains relaid in several localities.

The Sanitary Committee appointed by the council investigated and considered many of the insanitary conditions existing in the district with the result that in some situations decided improvements were effected. At the same time the attention of the Sanitary Committee appears to have been chiefly directed, during the year under consideration, toward the sanitary requirements of Bedlington itself and no idea appears to have been entertained of adopting an improvement scheme

for the east end of the town, the only means of dealing efficiently with the conditions obtaining in this locality. It was, however, decided to purchase a house in the Row at the back of Bell's Place with a view of demolishing it; if this proposal is carried out an obstructive building will have been removed and a cart entrance will thus be secured for scavenging purposes to about 17 houses, the contents of whose privy middens are at present wheeled out through narrow passages. So far as I am aware this is the only instance in which any steps were actually taken towards the removal of houses overcrowded on area or of obstructive buildings and many examples of houses in these categories remain untouched, both in Bedlington and elsewhere in this urban district; also so far as I can ascertain all the back to back houses and others without through ventilation remain as they were.

Many cases (probably all those mentioned in the report) of overcrowding in houses were dealt with and though fresh instances came to light from time to time they were remedied as quickly as possible. The privy accommodation, formerly so inadequate in many parts of Bedlington, was greatly improved and in many instances where there was no access for emptying privy middens save through narrow passages, w.c.'s were substituted for the insanitary accommodation previously provided. Many minor defects were also remedied at the east end of Bedlington; drains were taken up and relaid and fresh drains were provided for 18 families who previously had none; legal notices were served upon several owners to remedy defects and I believe a committee commenced to draft a long needed set of bye-laws.

Requirements.—The framing, adopting, and enforcing of regulations under the Dairies, Cowsheds and Milkshops Order as an aid to the production of milk under more healthy and more cleanly conditions, also the adoption of the Public Health Acts Amendment Act 1890 and the Infectious Diseases Prevention Act 1890.

The adoption of measures to obviate the gross pollution still existing of the Pegwhistle Burn, the Netherton Letch, the Willow Burn, the Sleek Burn, the Horton Burn, etc. Increased filtration area at the Water Works. Framing of new bye-laws to supersede those which date back to the year 1862.

BLYTH.

Medical Officer of Health, JOHN CROMIE, L.R.C.P., L.R.C.S.

Area, 1,264 acres; estimated population, 6,459; birth rate, 28.02; general death rate, *15.17; zymotic death rate, 1.85; infant mortality rate (per 1,000 births), 154.69; Phthisis death rate, 1.23; death rate from respiratory diseases, 2.16.

The whole of the above rates have, as compared with the previous year, increased as follows:—Birth rate, 0.44; general death rate, 1.65; infant mortality rate, 21.75; Phthisis death rate, 0.28; and the respiratory death rate, 0.09.

One hundred and eighty-one births were registered during the year, and ninety-eight deaths; of the latter twenty-eight were of children under one year, and fourteen of persons sixty-five years and upwards.

Excluding Chicken-pox twenty-four cases of infectious disease were notified as follows:—Diphtheria 8, Erysipelas 4, Scarlet fever 9, Enteric fever 2, Continued fever 1.

Twelve deaths occurred from zymotic disease, viz.:—Whooping cough 2, Diphtheria and Membranous Croup 2, Enteric fever 1, and Diarrhoea 7.

Phthisis caused 8 deaths; respiratory diseases, 14; heart diseases, 5; accidents, 2; and premature birth, 9.

It is again satisfactory to note that the birth rate was slightly higher than during the previous year, and that the general death rate was lower than the average for the years 1896-1905.

The district is divided into Wards—North and South; the birth rate for the former was 25.8 and for the latter 33.5 per 1,000, but contrary to what one would expect the infant mortality rate was lowest in the South Ward as was also the general death rate, but the zymotic death rate and the attack rate from notifiable infectious diseases were higher in the South than in the North Ward. This condition to a great extent corresponds with former experience; thus during the previous year (1905), though the population of the North Ward was two-and-a-half times that of the South Ward, yet in nearly every instance the incidence of infectious disease was not only relatively but numerically greater on the smaller than on the larger population.

Isolated cases of Scarlet fever occurred during each month of the first and last quarters; one case of Enteric fever was notified during January and one in September.

One case of Diphtheria was discovered in each of the following months:—January, February, August, and October; two in November and two in December.

The cases of Erysipelas also were entirely sporadic, one case having occurred in each of the months of March, May, August, and October.

A small outbreak of Chicken-pox occurred in January.

Diarrhoea was prevalent in August and September, causing seven deaths, all under five years.

The district was hardly ever entirely free from Influenza.

The medical officer draws attention to the fact that “a third of the deaths under one year were ascribed to premature birth, and that all the children who died under one year from Diarrhoea were hand fed.”

During July handbills were distributed containing instructions as to the preventive measures to be adopted, especially as to the care and cleanliness necessary to preserve food, more especially milk; and with reference to milk, which forms or should form the sole food of an infant during the first few months of life, the medical officer sounds a note of warning to which too little heed is given, viz., that the chief cause of tubercular disease in a child's abdomen is the ingestion of tuberculous milk, and that the foundation of Consumption in after life is frequently laid during childhood by drinking milk from tubercular cows.

Special attention was devoted to the cleansing of yards and ashclosets, etc., and there can be no doubt that these precautions were considerably instrumental in keeping down the number of cases of Enteric fever, Diphtheria, and Diarrhoea, and also that the thoroughness with which scavenging operations were carried out was largely due to the work being undertaken by the council and not by contractors.

Antitoxin was again provided by the council for use in suitable Diphtheritic cases.

Improvements.—The long-delayed new water scheme made but little progress during the year, but it was hoped that all difficulties had been finally surmounted and the much-needed supply of water in abundance and of good quality was really brought one step nearer to its accomplishment. An inquiry was held by one of the Inspectors of the Local Government Board in July, in consequence of an application from the Urban District Council of Blyth for sanction to borrow money for the purpose of carrying out the above scheme. Further improvements were made in some of the sewers, and some further progress was made in substituting the pail for the midden privy system.

Requirements.—The chief requirements of this district up to the end of the year under consideration were an abundant supply of pure water for domestic purposes and a copious supply for flushing sewers and drains. Means for isolating at one and the same time cases of Small-pox and also cases of other infectious diseases. The Port Authority have the first claim on their hospital, and, as has been pointed out in previous reports, one case of Small-pox would block the whole hospital against cases of any other description, either from the Port or from the neighbouring urban districts; and, *vice versa*, one patient suffering from a disease other than Small-pox would prevent the hospital being available for a case of Small-pox, even though the latter occurred within the jurisdiction of the Port Authority.

It is quite open to the Blyth Urban District Council to arrange with an outside authority for the reception of infectious cases, but in entering into such an agreement care should be taken that the provision made is such as to preclude the possibility of the arrangement becoming unworkable at any time. The only practicable way for the Blyth Sanitary Authority to insure against such a breakdown is to make certain that somewhere, either inside or outside their area, they procure facilities for isolating patients suffering from Small-pox and at the same time persons attacked by other infectious diseases, the Small-pox hospital being remote from the other and from dwelling houses and public roads.

A steam disinfector for infective bedding, clothing, etc., has long been a requirement of this district as well as of the neighbouring district of Cowpen and of the Port Authority, and also a destructor for house and other refuse. It is manifest that a combination between the three authorities for providing accommodation in the Port hospital for infectious diseases other than Small-pox, and for securing means for isolating Small-pox cases in another building suitably situated, would cause great saving to each authority, both in initial expense and in subsequent maintenance and upkeep. Similarly, a steam disinfector might be made to serve the same three authorities and a destructor the two urban districts.

A bye-law compelling w.c.'s to be provided for all newly-erected houses.

* 14·7 if the deaths of seven non-residents occurring in the district be deducted and if four deaths of residents occurring outside the district be added.

COWPEN.

Medical Officer of Health, R. LAING, L.R.C.P., M.R.C.S., Eng.,
L.M., D.P.H.

Area, 1.752 acres; estimated population, 19.950; birth rate, 35.88; general death rate, 15.98; zymotic death rate, 2.0; infant mortality rate, (per 1,000 births), 148.04; Phthisis death rate, 0.95; death rate from respiratory diseases, 2.1.

Of the above rates the birth rate, the zymotic death rate, and the respiratory death rate have decreased, in comparison with the previous year, by 2.61, 0.39 and 0.35 respectively; the remaining rates have increased as follows:—General death rate, 0.65; infant mortality rate, 15.25, and the Phthisis death rate, 0.12.

Seven hundred and sixteen births were registered during the year, and three hundred and nineteen deaths; of the latter one hundred and six were of children under one year, and fifty-nine of persons sixty-five years and upwards.

Ninety-one cases of infectious diseases were notified as follows:—Diphtheria and Membranous Croup 17, Erysipelas 6, Scarlet Fever 42, Enteric Fever 23, and Continued Fever 3.

Forty deaths occurred from zymotic disease, viz.:—Measles 4, Scarlet Fever 3, Whooping Cough 18, Diphtheria and Membranous Croup 2, Enteric Fever 4, Continued Fever 1, and Diarrhoea 8.

Phthisis caused 19 deaths; respiratory diseases, 42; heart diseases, 32; accidents, 7; and premature birth, 10.

The birth rate and the different death rates varied greatly in the seven sub-divisions of this populous district; thus the birth rate varied from 26.3 in the Hodgson's Mill district to 42.8 per 1,000 in the Crofton division; the average for the whole district (35.88) being considerably higher than the average for the urban districts in the administrative county; the general death rate, like the birth rate, was lowest 12.5 in the Hodgson's Mill division (as was also the attack rate from notifiable infectious diseases); 14.9 in Cowpen Quay; 15.2 in Bebside; 15.3 in Kitty Brewster district; 16.2 in Waterloo; 17.1 in Crofton; and 18.5 in Isabella Pit, Cowpen Colliery, and Newsham Freehold.

Similarly a greatly varying infant mortality rate was recorded in the different sub-divisions; thus, in Kitty Brewster, Cowpen and New Town the rate was 100 per 1,000 births; in Waterloo 121.6; in Crofton 140; in Cowpen Quay 154.9; in Isabella Pit division 169.6; in Bebside 190.4; and in the Hodgson's Mill district 263.1.

The medical officer calls attention to the fact that of illegitimate children 43% died under one year, and only 13% of those born in wedlock died at the above age period. He is also a firm believer in the influence for good exerted by health visitors and district nurses and, where these are available, is in favour of the earlier registration of births being made compulsory.

The zymotic death rate did not vary in the different sub-divisions as much as in previous years; it was, however, considerably the lowest (0.71) in the Isabella Pit division, and for the other sub-divisions varied from 1.73 in Waterloo to 2.92 in Bebside.

Ninety-one cases of infectious disease compare favourably with one hundred and fifty-five for the previous year; only three of the above cases appear to have been removed to hospital. Enteric Fever was notified from every locality except Crofton. Scarlet Fever again furnished the greatest number of cases; the disease occurred during every month of the year, and in every division except the Crofton and Hodgson Mill localities.

Diphtheria was also present with two exceptions (Hodgson's Mill and Kitty Brewster) in every sub-division.

Cases of Whooping Cough occurred in April and June, and Measles was prevalent in September and October. The above-named diseases caused twenty-two deaths.

Factory and Workshop Act.—The factories and workshops numbered 30. One hundred and five visits of inspection were paid; six defects were found all of which were remedied without any legal action being taken.

Improvements.—About fifty houses were erected and plans passed for an additional number. Considerable extensions of water and service pipes were laid, and the settling pond at Choppington Colliery was lined with cement concrete flags.

A considerable length of old sewers were taken up and relaid, and the ventilation of sewers was improved. Over 1,000 linear yards of streets were made up or repaired, and a similar length of footpaths were curbed.

Street lighting was greatly improved both by the provision of additional lamps and by the substitution of incandescent for flat flamed burners.

A Local Government Board Inquiry was held in consequence of the application of the Cowpen District Council for sanction to borrow £1,650 for the construction of a storage reservoir and filter bed at Bebside Water Works.

Requirements.—As regards the water supply the following remarks in the county medical officer's report issued for 1905 still hold good. "An abundant and dependable supply of pure water, on the constant system, continued to be the chief requirement of

“this populous district. The supply during the year was abundant, but the great bulk of the water was drawn from the mines. Water from such a source always possesses the drawbacks of being liable to unexpected pollution and of suddenly becoming “rusty” and unfit for domestic use. Since this council commenced to derive most of their domestic water supply from the mines they have experienced the first-named drawback and numbers of instances have occurred elsewhere of pit water becoming unusable owing to its rustiness. If the present sources, pit, surface and (to a very small extent) springs are retained, an additional area of sand filters should be provided and also a reservoir for filtered water.”

As regards overcrowding of houses on area, or of houses by inmates, either the abolition of all one-roomed tenements should be effected or a strict supervision should be exercised so as to obviate the conditions of overcrowding, which, during the year existed in many of these as well as in tenements of two rooms. The removal of obstructive buildings in Cowpen Quay and Newsham Freeholds and many alterations in Kitty Brewster, Bebside Furnace, Newsham Freeholds and Cowpen Quay, with a view of procuring better ventilation in, and improved sanitary conditions around, the houses.

When speaking on Phthisis the medical officer urges the importance of better ventilation both in houses and cowsheds, and the necessity of more stringent legislation against the sale of milk from tuberculous cows.

Additional facilities are needed for flushing sewers especially in the lower parts of the district.

The provision of a public abattoir in lieu of the existing private slaughter-houses.

The substitution of w.c.'s for all privy middens.

Means for isolating at one and the same time cases of Small-pox, and also cases of other infectious diseases. The Port Authority have the first claim on their hospital, and, as has been pointed out in previous reports, one case of Small-pox would block the whole hospital against cases of any other description, either from the Port or from the neighbouring urban districts; and, *vice versa*, one patient suffering from a disease other than Small-pox would prevent the hospital from being available for a case of Small-pox even though the latter occurred within the jurisdiction of the Port Authority.

It is quite open to Cowpen Urban District Council to arrange with an outside Authority for the reception of infectious cases, but in entering into such an agreement care should be taken that the provision made is such as to preclude the possibility of the arrangement becoming unworkable at any time. The only practicable way for the Cowpen Sanitary Authority to insure against such a breakdown is to make certain that somewhere, either inside or outside their area, they procure facilities for isolating patients suffering from Small-pox, and at the same time persons attacked by other infectious diseases, the Small-pox hospital being remote from the other and from dwelling-houses and public roads.

A steam disinfecter for infective bedding, clothing, &c., has long been a requirement of this district as well as for the neighbouring district of Blyth and of the Port Authority; also a distructor for house and other refuse. It is manifest that a combination between the three authorities for providing accommodation in the Port hospital for infectious diseases other than Small-pox and for securing means for isolating Small-pox patients in another building suitably situated, would cause a great saving to each Authority, both in initial expenses and in subsequent maintenance and upkeep. Similarly, a steam disinfecter might be made to serve the same three authorities, and a distructor the two urban districts.

CRAMLINGTON.

Medical Officer of Health, R. ANDERSON, M.D.

Area, 3,583 acres; estimated population, 6,700; birth rate, 23.28; general death rate, 14.77; zymotic death rate, 1.94; infant mortality rate (per 1,000 births), 141.02; Phthisis death rate, 1.19; death rate from respiratory diseases, 2.68.

Of the above rates the zymotic death rate and the Phthisis death rate are the same as for the previous year; the remainder of the rates have decreased as follows:—Birth rate, 9.8; general death rate, 5.43; infant mortality rate, 57.97; and the respiratory death rate, 3.9.

One hundred and fifty-six births were registered during the year, and ninety-nine deaths; of the latter twenty-two were of children under one year, and thirty of persons sixty-five years and upwards.

Thirty-two cases of infectious disease were notified as follows:—Diphtheria 6, Erysipelas 7, Scarlet fever 14, and Enteric fever 5.

Thirteen deaths occurred from zymotic diseases, viz:—Whooping Cough 1, Diphtheria and Membranous Croup 6, Enteric Fever 1, and Diarrhœ 5.

Phthisis caused 8 deaths; respiratory diseases, 18; heart diseases, 13; accidents, 8; and premature birth, 8.

It is satisfactory to note that while the zymotic and the Phthisis death rates were the same as for the previous year, the general death rate, the infant mortality rate and the respiratory death rate were each lower than for the year 1905.

The general death rate was lower by 5.4 and was the lowest recorded since 1902, and the second lowest during the past twenty-four years also 2 per 1,000 less than the average for the previous ten years.

The infant mortality rate besides being nearly 58 per 1,000 births lower than during the previous year was the lowest recorded during the previous ten years and was 36 per 1,000 births lower than the average for the same period.

The district was entirely free from Small-pox and Puerperal fever.

The deaths from premature birth numbered eight as compared with nineteen during the previous year and the fatality among infants from Diarrhœal diseases and also from Bronchitis and Pneumonia compares very favourably with that recorded from these diseases in 1905. The infectious diseases notified also numbered ten less than during the previous year. The highest case mortality was from Diphtheria. The Scarlet Fever outbreak was of a comparatively mild type; no deaths resulted from this disease and only one fatality from Enteric Fever. Of the six localities into which the medical officer divides his district none were entirely free from infectious disease. East Cramlington furnished the agreatest number of cases.

Whooping cough was prevalent during June and July.

Factory and Workshop Act.—Only five workshops were on the register; they were all inspected and no defects were found.

Improvements.—The medical officer remarks:—"During the year a very much needed piece of sanitary work has been carried out. The sewage tank at East Cramlington has been both enlarged and improved so as to provide ample filtering power for the increased quantity of sewage dealt with at this place. The work done by this tank is now very satisfactory and no pollution of the Seaton Burn now results from this source."

Requirements.—As in former years so up to the end of the year under consideration the water supply was chiefly derived from the mines and a more satisfactory supply was much needed.

A sewage disposal scheme was needed to prevent the pollution of Horton Burn.

The district council still needed bye-laws.

The medical officer's report should be printed as otherwise it is not available for consideration by the general public.

EARSDON.

Medical Officer of Health, TAYLOR DIXON, M.B., B.S.

Area, 4,705 acres; estimated population, 9,730; birth rate, 38.74; general death rate, *16.96; zymotic death rate, 2.36; infant mortality rate (per 1,000 births), 148.54; Phthisis death rate, 0.82; death rate from respiratory diseases, 0.93.

With the exception of the birth rate and the zymotic death rate, which have increased by 2.86 and 0.96 respectively, all the above rates have decreased as follows:—General death rate, 0.35; infant mortality rate, 32.74; Phthisis death rate, 0.33; and the respiratory death rate, 2.01.

Three hundred and seventy-seven births were registered during the year, and one hundred and sixty-five deaths; of the latter fifty-six were of children under one year, and twenty-five of persons sixty-five years and upwards.

Forty cases of infectious disease were notified as follows:—Diphtheria 6, Erysipelas 20, Scarlet fever 5, and Enteric fever 9.

Twenty-three deaths occurred from zymotic diseases, viz:—Measles 3, Whooping cough 2, Diphtheria and Membranous croup 2, Enteric fever 1, and Diarrhœa 15.

Phthisis caused 8 deaths; respiratory diseases, 9; heart diseases, 18; accidents, 3; and premature birth, 11.

The birth rate was the second highest recorded in the administrative county, and 2.58 higher than the average for the years 1896-1905. This district and the urban district of Bedlingtonshire are the only localities in the county in which an increased birth rate occurred simultaneously with a decreased death rate. The special feature of interest in the death rates is the reduction in the infant mortality rate.

The following table contains statistical information relating to the sub-divisions of the urban district.

Sub-districts.	Popu- lation.	Births.		Deaths.		Deaths under one year per 1,000 births.		Zymotic deaths.		Notifications of infectious disease.	
		No.	Rate.	No.	Rate.	No.	Rate.	No.	Rate.	No.	Attack rate per 1,000.
Earsdon ...	3,150	137	43.49	65	20.63	23	167.88	5	1.58	9	2.85
Backworth ...	2,187	56	25.60	37	16.91	12	214.28	6	2.74	6	2.74
Holywell ...	3,373	123	36.46	34	10.08	12	97.56	8	2.73	15	4.44
Murton ..	1,020	61	59.80	26	25.49	9	147.54	4	3.92	10	9.80
Whole district	9,730	377	38.74	162	16.64	56	148.54	23	2.36	40	4.11

The rates per thousand births were in the different sub-divisions as follows:—Backworth, 214.2; Earsdon, 167.8; Murton, 147.5; and Holywell, 97.5. Of the notifiable diseases twenty were of Erysipelas. The medical officer calls attention to the abnormal number of patients suffering from the disease; they were notified from each sub-division especially from Holywell.

With the above-named exception the amount of infectious disease, considering the conditions under which a large proportion of the population live, was small and nowhere did any infectious disease assume anything like epidemic proportions. It is noteworthy, however, that the attack rates per thousand of population were in Murton and Holywell 9.8 and 4.4 respectively, and in Earsdon and Backworth 2.8 and 2.7 respectively.

Three patients suffering from Diphtheria and four from Enteric fever were removed to hospital.

Appended is a table showing for each sub-district the number of deaths occurring in each quarter of the year and also the different age periods at which they occurred.

Townships.	First Quarter.	Second Quarter.	Third Quarter.	Fourth Quarter.	Total.	Under 1 year.	1 and under 5.	5 and under 15.	15 and under 25.	25 and under 65.	65 and upwards.
Earsdon ...	15	15	13	22	65	23	10	7	3	13	9
Backworth ...	6	7	12	12	37	12	5	3	2	5	10
Holywell ...	7	8	11	8	34	12	6	4	3	6	3
Murton ...	6	1	8	11	26	9	6	—	4	4	3
Whole district ...	34	31	44	53	162	56	27	14	12	28	25

The district was well supplied with water by the Newcastle and Gateshead Water Company, but the amount used was again small, averaging in Backworth and Holywell about five gallons per head per day, in Murton about seven gallons and in Earsdon about nine gallons, the average for the whole district being 6.8 gallons per head per day.

Factory and Workshop Act.—The factories numbered four and the workshops nine. Fifty-two visits of inspection were paid and no defects were discovered.

Improvements.—A considerable advance was made in the lighting of the district especially in the Murton and Earsdon townships.

The new houses in John Street Earsdon, and in James Terrace Shiremoor, were supplied with earth closets, a great improvement upon the offensive and insanitary privy midden system.

A measure calculated to act most beneficially in suppressing the spread of disease was adopted, viz., all the schools were thoroughly disinfected when closed on account of Diphtheria.

The Private Streets Works Act was adopted and Regulations were made under the Dairies, Cowsheds and Milkshops Order.

An inquiry was held by one of the Inspectors of the Local Government Board in consequence of an application by this District Council and the Council of the Tynemouth Rural District for sanction to borrow £5,500 for works of sewerage. The Board's sanction having been obtained satisfactory progress was made with the work. The main sewers through Backworth Village and at East Holywell were relaid. Plans were passed for nearly thirty houses and a considerable number of old houses were made more habitable by the addition of back kitchens. Some improvements were effected by the Backworth Coal Co., in the paths, etc., at the C Pit, and by Messrs. Hedley in the back street at Melbourne Terrace, Holywell. New sewers were also laid from Whitley Row to James Street and at West Holywell. Ventilating shafts were provided for sewers in various parts of the district. Plans were prepared and submitted for improving the road from Earsdon to East Holywell. Two hundred yards of footpath were

asphalted by the district council and the county council asphalted the footpaths through New York and Shiremoor and at the latter place provided extra storm water gulleys on the main road.

Water mains were extended in several localities and additional stand-posts were provided at Earsdon Square, Whitley Row, and New York.

Requirements.—A better water supply for the houses in Holywell Village; most of the inhabitants carry their water considerable distances and procure it from a source which the medical officer has repeatedly pointed out to be liable to pollution.

A thorough overhauling and re-planning of the sewage disposal ground at Holywell so as to obviate the gross pollution of Seaton Burn which continued during the year.

Scavenging at shorter intervals than a month and the covering and cementing of all privy ashpits.

Abolition of all surface channel drainage.

Bye-laws should be framed for the management of slaughter houses as required by the Public Health Act, 1875 (Sec. 169); also a bye-law prohibiting privy middens for all new property.

A steam disinfecter for the use of the two joint hospitals.

* 16·64 if the death of one non-resident occurring in the district be deducted.

GOSFORTH.

Medical Officer of Health, W. GALBRAITH, L.R.C.P., L.R.C.S.

Area, 1,303 acres; estimated population, 12,500; birth rate, 26.16; general death rate, *17.92; zymotic death rate, 1.28; infant mortality rate (per 1,000 births), 113.15; Phthisis death rate, 1.44; death rate from respiratory diseases, 1.04.

With the exception of the zymotic death rate and the Phthisis death rate which have increased by 0.12 and 0.19 respectively, all the above rates have decreased as follows:—Birth rate, 1.09; general death rate, 2.53; infant mortality rate, 33.63; and the respiratory death rate, 0.37.

Three hundred and twenty-seven births were registered during the year, and two hundred and twenty-four deaths, of the latter eighty-eight were of non-residents occurring in public institutions in the district, leaving one hundred and thirty-six on which the corrected death rate is calculated. Thirty-seven deaths were of children under one year and twenty-nine of persons sixty-five years and upwards.

Seventy-two cases of infectious disease were notified as follows:—Small-pox 4, Diphtheria 10, Erysipelas 9, Scarlet fever 43, Enteric fever 5, and Puerperal fever 1.

Fifteen deaths occurred from zymotic disease, viz:—Smallpox 1, Measles 1, whooping Cough 2, Diphtheria and Membranous Croup 1, Enteric Fever 1 and Diarrhœa 10.

Phthisis caused 18 deaths; respiratory diseases, 13; heart diseases, 14; accidents, 1; and premature birth, 6.

With an increase in the population estimated at 500, the actual number of births registered was exactly the same as for the previous year and the birth rate fell by 1.09. The general death rate, however, showed a satisfactory decline and was the second lowest in the Administrative county. The infant mortality rate was 33.63 per 1,000 births lower than during the previous year and the respiratory death rate, which also showed a slight reduction, was the third lowest in either urban or rural districts.

Concerning the deaths at special age periods the medical officer remarks: "It is interesting to note that, of the number, 136, no less than 26 persons died after having reached the ripe age of 70 years;

"15 between the ages of 70 and 80 years; nine between the ages of 80 and 90 years; and two over 90 years. It is also gratifying to me to be able to state that the mortality amongst infants has slightly decreased, there being 11 fewer deaths than during the previous year."

The medical officer again strongly urges the council to at any rate make a beginning of providing sanatorium treatment for suitable cases of Phthisis. He draws attention to the number of deaths caused by the disease, and continues: "I cannot pass over these figures, indicating as they do a most deplorable waste of life, without again urging upon you the importance of erecting a local sanatorium where patients suffering from Phthisis may be properly treated in accordance with the latest theory and practice of medical science. You have your isolation hospitals for Scarletina and for Small-pox cases, it is equally if not more important that a similar institution should be provided for this class of case, so that the great source of danger to the community arising from ignorance and from carelessness in the disposal of sputa, may be entirely obviated."

Four cases of Small-pox occurred causing one death.

Scarlatina was present during every month of the year.

Cases of Diphtheria were notified during six months.

The few cases of Enteric Fever occurred during the months of September and October, and thirteen deaths of infants were caused by Diarrhœa of which the medical officer says: "The majority of these deaths were undoubtedly due to the ignorance of parents in regard to the feeding of children and domestic hygiene. It is most regrettable that it seems impossible to educate some mothers in regard to this fruitful source of mortality amongst children."

Measles was prevalent during the first quarter of the year and Influenza was epidemic during December.

Factory and Workshop Act.—From the medical officer's report it appears that few factories existed in the district and that 19 workshops were on the register. Ninety-six visits of inspection were paid and no defects were discovered.

Improvements.—Plans for nearly one hundred and seventy houses were passed, and one hundred and fifty were completed or in course of erection. Considerable improvements were made in the condition of some of the main thoroughfares and in the public lighting. Some of the main sewers were relaid. Additional use was made of the joint hospital at Newburn. Water mains were extended in several parts of this district. The medical officer's report was printed but as none of the five tables which are of great interest and value were included with the printed matter, the value of the report to the public is greatly curtailed. A Local Government Inquiry was held as a result of an application by this district council for sanction to borrow £14,000 for works of sewerage.

Requirements.—Owing to the difficulty experienced in procuring satisfactory tips for refuse, a destructor appears to be a necessity for this district. No heaps or other accumulations of the worst kind of filth should be tolerated in what is now a residential district, rapidly increasing in rateable value and consequently a regular "Naboth's vineyard" to the adjoining Authority. Scavenging would be more satisfactorily carried out if performed by the Council's men. The large number of ash closets which still remain should be replaced by w.c.'s.

*10·88 excluding the deaths of 88 non-residents occurring in public institutions in the district.

HEXHAM.

Medical Officer of Health, D. JACKSON, M.D.

Area, 5,149 acres; estimated population, 8,250: birth rate, 25.69; general death rate, *16.84; zymotic death rate, 1.69; infant mortality rate (per 1,000 births), 103.77; Phthisis death rate, 2.3; death rate from respiratory diseases, 2.54.

With the exception of the birth rate and the infant mortality rate, which have decreased by 1.31 and 30.48 respectively, the above rates have increased as follows:—General death rate, 1.15; zymotic death rate, 0.94; Phthisis death rate, 1.3; and the respiratory death rate, 0.17.

Two hundred and twelve births were registered during the year, and one hundred and thirty-nine deaths; of the latter twenty-two were of children under one year, and fifty-one of persons sixty-five years and upwards.

Exclusive of Measles and Whooping Cough, forty-one case of infectious disease were notified as follows:—Diphtheria 9, Membranous Croup 3, Erysipelas 5, Scarlet Fever 22, Enteric Fever 2.

Fourteen deaths occurred from zymotic diseases, viz:—Whooping cough, 5; Diphtheria and Membranous croup, 3; and Diarrhœa, 6.

Phthisis caused 19 deaths; respiratory diseases, 21; heart diseases, 26; accidents, 3; and premature birth, 1.

The medical officer draws attention to the considerable mortality from Phthisis, Pneumonia and Bronchitis—forty deaths; of the two diseases last mentioned, causing twenty-one deaths, thirteen deaths occurred in children under five years old.

The Phthisis death rate was the highest recorded during the year in the administrative county and the death rate for respiratory diseases other than Phthisis (*i.e.*, Bronchitis, Pneumonia, and Pleurisy) was the third highest in the county.

Whooping cough was epidemic in the months of September, October, November and December.

Cases of Measles were notified in August, September, October, November and December.

Scarlet fever was reported in each month from April to December inclusive.

No deaths were attributed to Scarlet fever or Measles and only five to Whooping cough.

A most satisfactory reduction in the infant mortality rate occurred (of 30.48 per 1,000 births). This was the lowest recorded in the district since 1902, and the second lowest recorded in 1906 in any urban district.

Factory and Workshop Act.—Eighty-seven visits of inspection were paid to Factories and Workshops and eight to outworkers' premises. Nine minor defects were found all of which were remedied.

Improvements.—Nearly fifty houses were built during the year. The new sewage disposal works were completed as was also the new cattle market. More than 1,500 yards of sewers and drains were laid; water mains were extended and additional connections made. Plans were prepared for making up several private streets with tar-macadam and the general improvements which are gradually being made in the least sanitary localities were continued.

Requirements.—The medical officer draws attention to the necessity of greater care being exercised in the production and storage of milk. "As regards the milk producers, more attention is needed to the cow's udders and teats and the hands of the milker. This applies with even greater force to the consumers of milk; we frequently found the

"milk kept in most unsuitable places. Too much care cannot be taken "by the producers, the sellers, and the consumers alike, both as to "cleanliness, keeping the milk cool, and covered away from other "eatables and flies." The medical officer refers also to the desirability of appointing a health visitor and to the necessity of inducing the people "to realise a true sense of their responsibility to themselves, "their children and their neighbours."

* 15.27 if the deaths of thirteen non-residents occurring within the district be deducted.

NEWBIGGIN-BY-THE-SEA.

Medical Officer of Health, VINCENT BURROW, M.D., B.S.,
M.R.C.S., Eng., L.R.C.P. (Lond.)

Area, 351 acres; estimated population, 2,550; birth rate, 32.15; general death rate, 15.29; zymotic death rate, 0.78; infant mortality rate (per 1,000 births), 134.14; Phthisis death rate, 1.96; death rate from respiratory diseases, 2.35.

The whole of the above rates have decreased as follows:—Birth rate, 2.33; general death rate, 0.91; zymotic death rate, 0.4; infant mortality rate, 26.77; Phthisis death rate 0.01; and the respiratory death rate, 0.02.

Eighty-two births were registered during the year, and thirty-nine deaths, of the latter eleven were of children under one year and eleven of persons sixty-five years and upwards.

Fourteen cases of infectious disease were notified as follows:—Diphtheria 3. Erysipelas 1, and Scarlet fever 10.

Two deaths occurred from zymotic disease, viz.:—Whooping cough 1, and Diarrhœa 1.

Phthisis caused 5 deaths; respiratory diseases, 6; heart diseases, 3.

The Phthisis death rate was the second highest registered in the administrative county; nevertheless all the death rates showed a reduction as compared with the previous year, the infant mortality rate being reduced by 36 per 1,000 births, and the general death rate being 2.2 below the average for the years 1896-1905. The cases of infectious disease notified were again very few.

Factory and Workshop Act.—No register appears to have been kept which as I pointed out in my reports for 1904 and 1905 is an infringement of section 131 of the Factory and Workshop Act. Eight visits of inspection were paid.

Improvements.—As regards the insanitary conditions to which attention was drawn by a report from the Property and Sanitation Committee of the County Council in 1905, no very great or general improvements were effected during the year under review. Thirty-one houses, however, were built, six of which had a constant water service provided by the Milburn Estates Co. In Store Yard the ventilation of the houses was improved as was the privy accommodation for two houses in Prospect Place and for two houses in Wansbeck Square.

Footpaths were laid with cement concrete in Marine Street, Moor Road, Moor View and East View.

A new set of bye-laws were framed but up to the end of the year they had not received the sanction of the Local Government Board.

Considerable lengths of gas mains were laid and Seaton Avenue and Buteland Terrace were lighted.

Requirements.—The most urgent need of this district continued to be a better water supply. I repeat my remarks on this subject made in my annual report for 1905, and also on other requirements as they still hold good with increasing force.

"No considerable development in building operations can take place and no great improvement in general sanitation can be effected until steps are taken for procuring an abundant supply of pure water distributed all over the district. A few private wells are available and a few houses on the Milburn estate have a private supply, but practically 2,500 and during the season 3,000 people are dependent upon three wells, the water in which is liable to pollution and the pumping arrangements of which are liable to go wrong. Practically all water for any purpose is carried from these wells and in many cases for a considerable distance. It is needless to say that under these circumstances a quantity of water very far short of all sanitary requirements is used for domestic purposes, for flushing of drains and sewers, and for cleansing of yards, stables, cowsheds, slaughter houses, etc."

Scavenging should be undertaken by the sanitary authority, complaints having been frequent from both residents and visitors of the nuisance arising from the slovenly scavenging of structurally insanitary receptacles.

A new code of bye-laws are urgently needed, most, if not all of those in force dating back to 1871, also regulations under the Dairies, Cowsheds and Milkshops Order should be framed and enforced and the Public Health Amendment Act, 1890, should be adopted.

A register of factories and workshops should be kept as required by the Factory and Workshop Act, 1901, Section 131.

The medical officer calls attention to the urgent need of a new burying ground and to the hardy annual—the nuisance caused by the large uncovered privy ashpits in Henderson's Buildings. Tables 3, 4, and 5, should form a part of the medical officer's annual report. Without these tables its value and usefulness to the public are materially reduced and the money saved by excluding them would probably only amount to about £1 for 100 copies.

NEWBURN.

Medical Officer of Health, A. W. MESSER, M.B., C.M., B.Sc.

Area, 4,673 acres; estimated population, 14,765; birth rate, 35.76; general death rate, 12.59; zymotic death rate, 2.43; infant mortality rate (per 1,000 births), 111.74; Phthisis death rate, 0.74; death rate from respiratory diseases, 1.15.

The whole of the above rates have, as compared with those for the previous year, decreased as follows:—Birth rate, 2.59; general death rate, 5.08; zymotic death rate, 1.83; infant mortality rate, 79.51; Phthisis death rate, 0.49; and the respiratory death rate, 1.85.

Five hundred and twenty-eight births were registered during the year, and one hundred and eighty-six deaths, of the latter fifty-nine were of children under one year, and thirty-five of persons sixty-five years and upwards.

One hundred and eighty cases of infectious diseases were notified as follows:—Diphtheria 85, Erysipelas 17, Scarlet fever 46, Enteric fever 30, and Puerperal fever 2.

Thirty-six deaths occurred from zymotic disease, viz:—Scarlet fever 2, Whooping cough 3, Diphtheria and Membranous croup 9, Enteric fever 4, and Diarrhœa 18.

Phthisis caused 11 deaths; respiratory diseases, 17; heart diseases, 19; accidents, 11; and premature birth, 9.

Though the birth rate was lower than during the previous year and the lowest recorded since the year 1891, it was considerably higher than the county rate (29.09) and also above the rate for England and Wales (27).

The general death rate, which for the previous year was the highest recorded during the five years ended 1905 and the third highest in the administrative county, showed a considerable reduction for the year under review, being the lowest recorded in the district during the last eleven years.

The birth and general death rates varied considerably in the seven localities into which the district is divided; thus the birth rate was in East and West Denton 45.3, in Newburn 42.3, in Walbottle 37.6, in Newburn Hall and Sugley 29.8, and in Throckley 23.3 per 1,000 population. There was also a marked difference in the general death rate in the different sub-districts; thus in East Denton alone the rate was 22.05, in East and West Denton combined 17.7, in Newburn 14.9, in Walbottle 14.1, in Throckley 10.1, and in Newburn Hall and Sugley 8 per 1,000 population.

It is most satisfactory to note the very considerable fall in the infant mortality rate, which was the lowest recorded during the last 11 years, and the third lowest in urban districts, the actual number of deaths at this age period being also the lowest (59) since the year 1898. The death rate from zymotic diseases 2.4 per 1,000 population also compares favourably with that recorded for the year 1905 (4.2). The incidence of zymotic diseases on the different sub-divisions varied considerably:—thus in West Denton no cases of zymotic disease occurred; in Newburn the attack rate per 1,000 population was 21.9; in Newburn Hall 7.5; in Throckley 5.9; in Walbottle 9.3; in East Denton 7.5, and in Sugley 3.9.

The cases of infectious disease notified were largely in excess of those for the previous year, four times as many cases of Diphtheria and more than twice as many of Enteric fever having been notified during 1906 as during 1905. The attack rate for the above diseases was on the Newburn and Walbottle districts 24 and 9.7 per 1,000 population respectively; on the East Denton, Newburn Hall and Throckley districts 8.8, 8.5 and 7.1 respectively; and on the Sugley and West Denton districts 3.9 and 1.5 respectively.

Of the one hundred and eighty cases of infectious disease notified one hundred and thirty (72.2%) were removed to hospital.

Of the patients treated in hospital 7% died; of the cases not removed to hospital 16% were fatal.

The deaths caused by Phthisis were but little more than half those resulting from this disease in the year 1905 and the death rate from this cause was the third lowest recorded in urban districts.

Scarlet fever was present during every month of the year and Diphtheria during eleven months. Cases of Enteric fever were notified during January, March, June, July, August, September, October, and November, and of Erysipelas during the months of February, March, April, May, July, September, October, November and December.

Factory and Workshop Act.—The factories numbered two, the workshops thirteen, and workplaces four. Ten visits of inspection were paid and no defects were found.

Improvements.—It is most satisfactory to note that in some portions of the district great improvements were effected both as regards the sanitary condition of houses and also of their surroundings.

Mount Pleasant, near Throckley.—The yard spaces were laid with cement concrete; the tenants of these houses were consequently enabled to keep their immediate surroundings in a sanitary condition and it is worthy of note that since the above work was carried out no cases of Enteric fever have been notified from these two rows of houses.

Newburn.—In the High Street one house was demolished and two houses were converted into one; in the latter a cement floor was laid, through ventilation was provided both in the downstairs and upstairs rooms and fireplaces were put in the latter.

Seventy-seven houses were built during the year and in four cases additions to houses were completed; four w.c.'s and four washhouses were erected.

Two new sewers and one water main were laid, viz., at Throckley Bank Top and Walbottle West Turnpike to abate a nuisance from Dene House.

Several other improvements having a considerable bearing on the public health have been dealt with since the close of the year under review and will be included in the report for 1907.

Requirements.—Increased house accommodation and the closing of many houses unfit for human habitation. Improvement in the drainage and privy accommodation in several localities, one or other of which were absent in several instances. At least one example was found of a one-roomed tenement with neither drain, privy, nor through ventilation. In addition to the above requirements may be mentioned the abolition of many most insanitary privy ashpits and the adoption of a bye-law making the provision of w.c.'s compulsory for all new or re-built dwelling houses.

In probably no urban district in the county is there greater scope for the influence of a Health Visitor.

ROTHBURY.

Medical Officer of Health, F. BARROW. M.R.C.S., L.S.A.

Area, 970 acres; estimated population, 1,340; birth rate, 17.91; general death rate, *14.92; zymotic death rate, nil; infant mortality rate (per 1,000 births), 41.66; Phthisis death rate, 1.49; death rate from respiratory diseases, 1.49.

Of the above rates the zymotic death rate was nil in the year under consideration, as was also the case during the previous year; the general death and the Phthisis death rate have increased by 0.64 and 1.49 respectively, while the remaining rates have decreased as follows:—Birth rate, 3.14; infant mortality rate, 65.48; and the respiratory death rate, 0.76.

Twenty-four births were registered during the year, and twenty deaths, of the latter one was of a child under one year, and nine of persons sixty-five years and upwards.

Five cases of infectious disease were notified as follows:—Diphtheria 1, Erysipelas 2, and Scarlet fever 2. Non-notifiable diseases were confined to German Measles.

No deaths occurred from zymotic disease, a statement which only applies to two other sanitary districts in the county, viz., the rural districts of Bellingham and Norham & Islandshire. Phthisis caused 2 deaths; respiratory diseases, 2; heart disease, 2.

The birth rate was the third lowest recorded in the administrative county. Of the nine deaths which occurred above 65 years three were over 80 years and four over 70.

Only one child died under 12 months old which gives an infant mortality rate of 41.6 per 1,000 births.

Factory and Workshop Act.—Seventeen workshops are stated to be on the register. Twelve of the workshops were inspected; two defects were found and rectified.

The medical officer as usual gave a table indicating the rainfall registered during each month of the year, from which it appears that Sept. with a rainfall of 0.79 inches was the driest month, and October the wettest with a rainfall of 7.98 inches.

The rainfall for the year was 36.13 inches being 6.75 in excess of the previous year and about 2.3 inches above the average (34 inches) for this district.

Improvements.—Plans were passed for erection or rebuilding of five houses. Great sanitary improvements were effected at Pethfoot. A good supply of water was laid on to the Isolation Hospital.

Application was made to the Local Government Board for sanction to borrow £5,500 for purposes of sewerage and sewage disposal.

Requirements.—The carrying out of the sewerage and sewage disposal scheme.

The conversion of uncovered privy ashpits into more sanitary receptacles, also drainage for the workhouse.

The tables 1, 3, 4 and 5 required by the Local Government Board should all form part of the medical officer's annual report. The cost of printing them with the report would only be a few shillings (probably about a sovereign for 100 copies) and without these tables the value of the report to the public is materially reduced.

* 14·17 if the death of one non-resident occurring within the district be deducted.

SEGHILL.

Medical Officer of Health, R. ANDERSON, M.D.

Area, 1,425 acres; estimated population, 2,220; birth rate, 11.71; general death rate, 11.26; zymotic death rate, 1.8; infant mortality rate (per 1,000 births), 307.68; Phthisis death rate, nil; death rate from respiratory diseases, 1.35.

The respiratory death rate was the same in 1906 as during the previous year; the zymotic death rate and the infant mortality rate increased by 1.35 and 132.25 respectively, and the remaining rates decreased as follows:—Birth rate, 13.96; general death rate, 2.25; and Phthisis death rate, 1.35.

Twenty-six births were registered during the year, and twenty-five deaths, of the latter eight were of children under one year, and four of persons sixty-five years and upwards.

Eight cases of infectious disease were notified as follows:—Scarlet fever 4, Diphtheria 1, Enteric fever 1, and Erysipelas 2.

As usual very few cases of zymotic disease occurred in this district, which was entirely free from Small-pox; only seven cases of infectious disease were notified, from which no deaths resulted. A few cases of measles occurred in September and several of Whooping cough in May.

Four deaths occurred from zymotic disease, viz:—Measles 1, Whooping cough 2, and Diarrhœa 1.

Phthisis caused no deaths; respiratory diseases, 3; heart diseases, 3; accidents, 1; and premature birth, 3.

The population is estimated to have remained unchanged since the year 1902 and was about forty-four less than the average for the years 1896-1905.

The birth rate was the lowest recorded in the administrative county, as was also the Phthisis death rate. The former was considerably below the average for the previous ten years. No deaths from Phthisis occurred a statement which cannot be made in relation to any other sanitary district. The general death rate was the third lowest in either urban or rural districts, and was the lowest ever recorded in the district. The infant mortality rate was the highest recorded in the administrative county, though as the medical officer points out "This increased mortality is entirely accounted for by the extremely low birth rate." The former rate has averaged 190.4 during the last 10 years.

Factory and Workshop Act.—No register of workshops appears to have been kept in this district, which is contrary to Section 131 of the Factory and Workshop Act 1901.

Improvements.—Schemes were adopted for treating the sewage of this district so as to obviate the pollution of Seaton Burn. Several cases of overcrowding in houses have been remedied.

Requirements.—The carrying out of the proposed sewage disposal schemes. A destructor for the disposal of house and other refuse would have a most beneficial effect on the salubrity of the district. In many houses the attics ought to be ceiled, as they are otherwise unfit for use in the winter.

A steam disinfecter for use at the joint hospital was a distinct requirement.

The medical officer's report should be printed and the five tables required by the Local Government Board should be incorporated with the report.

A registrar of factories and workshops should be kept.

WEETSLADE.

Medical Officer of Health, ALLAN WALKER, M.B., C.M.

Area, 2,198 acres; estimated population, 5,453; birth rate, 39.42; general death rate, 18.7; zymotic death rate, 2.38; infant mortality rate (per 1,000 births), 195.34; Phthisis death rate, 1.28; death rate from respiratory diseases, 1.28.

Of the above rates the birth rate and the Phthisis death rate have decreased by 1.65 and 0.55 respectively; the remainder of the rates have increased as follows:—General death rate, 4.22; zymotic death rate, 2.02; infant mortality rate, 70.34; and the respiratory death rate, 0.18.

Two hundred and fifteen births were registered during the year, and one hundred and two deaths; of the latter forty-two were of children under one year, and eighteen of persons sixty-five years and upwards.

Fifty-one cases of infectious disease were notified as follows:—Diphtheria 33, Erysipelas 4, Scarlet fever 8, and Enteric fever 6.

Thirteen deaths occurred from zymotic disease, viz:—Measles 4, Whooping cough 1, Diphtheria and Membranous croup 2, Enteric fever 2, and Diarrhoea 4.

Phthisis caused 7 deaths; respiratory diseases, 7; heart diseases, 10; accidents, 3; and premature birth, 21.

The birth rate was again the highest recorded in the administrative county. The general death rate also was the highest recorded in either urban or rural districts.

The infant mortality rate was the second highest in the county and nearly fifty per 1,000 births higher than the average for the previous three years. The medical officer divides the district into four localities, and as will be seen by the accompanying table the various rates differ considerably in the above-named localities.

Sub-district.	Popu- lation.	Births.		Deaths.		Infant deaths.		Notifica- tions.	
		No.	Rate,	No.	Rate.	No.	Rate per 1,000 births.	No.	Rate.
Dudley ...	2,628	110	41.8	50	19.0	17	154.5	33	12.5
Seaton Burn ...	1,618	41	25.3	26	16.0	13	317.0	14	8.6
Annitsford ...	920	49	53.2	20	21.7	10	204.0	4	4.3
Wide Open ...	287	15	52.2	6	20.9	2	133.3	0	Nil.
Whole district ...	5,453	215	39.42	102	18.7	42	195.3	51	9.3

Thus the birth rate was in Annitsford and Wide Open 53.2 and 52.2 respectively, and in Dudley and Seaton Burn 41.8 and 25.3 respectively.

The general death rate was 21.75 per 1,000 population in the Annitsford sub-division, 20.9 in Wide Open, 19 in Dudley, and 16 per 1,000 in Seaton Burn.

The infant mortality rate was the highest in the Seaton Burn division and lowest in the Wide Open divisions.

Of ten illegitimate children born seven died within the first year, and of the total deaths at this age period twenty-one are assigned to premature birth.

With reference to notifiable diseases the Wide Open district was the only sub-division from which no cases were notified. Of the fifty-one cases present in the whole district thirty-three occurred in the Dudley sub-division, fourteen in the Seaton Burn, and four in the Annitsford districts. Nearly all the cases of Diphtheria (31 out of 33) were in the Dudley division.

All the Enteric fever cases occurred in the Seaton Burn district.

Of the eight cases of Scarlet fever seven were notified in the Seaton Burn division.

Concerning the Diphtheria outbreak the medical officer remarks, "In October two cases of Diphtheria were reported, in November fifteen cases, and in December fourteen cases, all from Dudley, making thirty-one cases reported during the months of October, November, and December. The first case is said to have occurred after a visit to a relative in a neighbouring county who is supposed to have died of Diphtheria. Be this as it may, the subsequent cases followed, resulting from visitation of infected houses, and children attending school from infected houses."

Of the Enteric fever outbreak the medical officer says, "Of the five cases reported four of the persons belonged to the same house, the fifth being a relative, who had left the infected house, and afterwards took fever. This house was reported as overcrowded before the fever broke out." During the first seven months of the year the district was remarkably free from infectious disease.

During August a severe epidemic of Measles occurred resulting in four deaths.

The cases of Enteric fever were notified during the months of August, September and October, and the outbreak of Diphtheria during the last three months of the year.

Factory and Workshop Act.—None of the workshops in this district appears to be registered which is an infringement of Sec. 131 of the Factory and Workshop Act, 1901.

Improvements.—A water main was laid from Wide Open to Fisher Lane, and new dwelling houses were built at West Wide Open.

Requirements.—The conversion of the present insanitary privy ashpits into earth closets.

Measures should also be adopted with a view of preventing fish, vegetable matter and slop water from being thrown into ashpits; where the practice prevails a nuisance is frequently caused and when slop water is thrown into an ashpit it not only favours decomposition but it adds to the polluted condition of the walls and adjacent ground, and is frequently the cause of ashpits not being thoroughly emptied.

One of the cowsheds in the district was unfit for use as such on account of its structural condition and insanitary surroundings. As regards the Seaton Burn the medical officer says:—"As regards the Burn there is still an unsatisfactory effluvium produced at the irrigation grounds, which would be greatly improved by the Burn being oftener cleaned out, both above and below the irrigation grounds."

Sec. 131 of the Factory and Workshops Act, 1907, require all workshops to be registered; the district council do not appear to have taken any steps towards this requirement being carried out.

The medical officer again pleads for better footpaths in colliery towns, without which children cannot in wet weather get to and from school with dry feet; he also again and not for the second or third time only emphasises the necessity of the district council securing some means for isolating infectious disease; either by providing an isolation hospital in this district or by arranging with some sanitary authority outside the district to receive patients suffering from infectious disease in the Weet-slade district. The medical officer's annual report, which is full of interesting details, should include Tables 1, 2 and 3 required by the Local Government Board as well as Tables 4 and 5, which alone are printed with the report for 1906.

WHITLEY AND MONKSEATON.

Medical Officer of Health, J. PEEL SPARKS, M.D., Bac. Surg. (Durh.).

Area, 1,650 acres; estimated population, 12,700; birth rate, 16.37; general death rate, 9.44; zymotic death rate, 0.55; infant mortality rate (per 1,000 births), 76.92; Phthisis death rate, 0.78; death rate from respiratory diseases, 0.94.

Of the above rates the birth rate, the infant mortality rate and the respiratory death rate have decreased by 2.63, 2.02 and 0.31 respectively the remaining rates have increased as follows:—General death rate, 0.36; zymotic death rate, 0.14; and the Phthisis death rate, 0.12.

Two hundred and eight births were registered during the year, and one hundred and twenty deaths, of the latter sixteen were of children under one year, and forty-four of persons sixty-five years and upwards.

Excluding Chicken-pox, forty-five cases of infectious disease were notified as follows:—Diphtheria 24, Erysipelas 5, Scarlet fever 14, and Enteric fever 2.

Seven deaths occurred from zymotic disease, viz:—Diphtheria and Membranous croup 3, and Diarrhœa 4.

Phthisis caused 10 deaths; respiratory diseases, 12; heart diseases, 24; accidents, 1; and premature birth, 3.

The population is estimated to have increased by seven hundred since the previous year. The birth rate and the respiratory death rates were each the second lowest, and the general death rate was the lowest in the administrative county. The birth rate was the lowest recorded in the district during the previous ten years (1896-1905). The infant mortality rate was the lowest in urban districts by 26 per 1,000 births, and zymotic death rate was the second lowest in urban districts.

The medical officer divides his district into four wards and gives statistical information, which is extremely valuable in making comparisons possible, as to the birth rate and various death rates obtaining for each ward, as well as the incidence of infectious disease upon each ward.

The birth rate did not vary much in the different wards, being however the highest (20) in the Monkseaton and lowest (15.1) in the Rockcliffe Ward.

The general death rate was highest in the Rockcliffe (11.5) and lowest (8.4) in St. Mary's ward.

The infant mortality rate varied considerably being 112 and 87 (per 1,000 births) in St. Mary's and Rockcliffe wards respectively, and 58 and 32 in Marden and Monkseaton respectively.

The attack rate (*i.e.*, the number of persons attacked per 1,000 of the population by infectious disease) excluding Chicken-pox, was in the Marden and St. Mary's wards 1.6 and 3.6 respectively, and in the Monk-seaton and Rockcliffe wards 3.6 and 5.5 respectively.

Four cases of Diphtheria and three of Scarlet fever were removed to the Isolation Hospital. The medical officer considers that by removing the patients suffering from Diphtheria to hospital, what threatened to be a dangerous outbreak was averted, and referring to bacteriological examinations provided by the county council, the medical officer said, "I have found the examinations conducted by the Bacteriologist to the County Council of the greatest service in dealing with the disease; by the aid of these examinations a doubtful diagnosis has been in many cases cleared up."

Factory and Workshop Act.—Fifty-one workshops were on the register, they were all inspected during the year and no defects were found.

Improvements.—A considerable number of new houses and shops were built. The water supply was abundant but highly coloured. The public abattoirs were completed and opened and, with one exception, private slaughter houses were closed. More than half a mile of new sewers and more than two miles of new drains were laid. From the sanitary inspector's report it appears that nearly six hundred yards of defective drains in yards were relaid and a considerable number of intercepting traps, trapped gulleys and traps for waste pipes were provided. More than one hundred and fifty rooms in houses and schools were disinfected and more than four hundred nuisances were dealt with and remedied. An inquiry was held by one of the Inspectors of the Local Government Board in consequence of an application by the Councils of this Urban District and of the Borough of Tynemouth for sanction to borrow £2,000 in equal moieties for extensions to the Marden Burn sewer.

Requirements.—Scavenging operations would be carried out in a much more satisfactory manner by the council's own men than they are by contractors. The remaining privy ashpits (about forty) should be replaced by w.c.'s; privy middens emptied once a month are a discredit to any health resort. A destructor appears to become more necessary every year; on this subject the medical officer says, "It is becoming increasingly difficult to find a suitable tip on which to deposit the refuse of the district. I consider that the present tip which is in use at Hill Heads for the deposit of shop-refuse is too close to the public road and constitutes a very real nuisance, and I hope that the chimney at Hill Heads will soon be in working order so that we may be able to deal with the shop refuse, some of which is of a highly offensive nature."

A steam disinfecter is another desideratum as none has been provided for this urban district or for use at the joint hospital.

On the condition of some of the roads and footpaths the medical officer says, "In my opinion it would aid in the bettering of the sanitary condition of the district if the roads on which there is much traffic were paved with impervious material and were cleansed by means of water and not by dry sweeping. These remarks apply specially to the lower end of Whitley road which has been in a bad condition for some years with the result that it is muddy in winter and dusty in summer.

The road in front of Windsor Crescent should be made, not only for æsthetic but also for sanitary reasons, as in its present state it is not conducive to the health or comfort of dwellers in that region.

The footpath running from Grafton Road to Cullercoats between Margaret Road and Windsor Crescent should be put into a state of repair; at present in wet weather it is a muddy swamp. The footpath between the lower end of Whitley Road and Lish Avenue should also be made passable in wet weather.

WILLINGTON QUAY.

Medical Officer of Health, C. T. U. BABST, L.R.C.P., L.R.C.S.

Area, 313 acres; estimated population, 8,940; birth rate, 34.45; general death rate, *16.44; zymotic death rate, 3.58; infant mortality rate (per 1,000 births), 152.59; Phthisis death rate, 1.11; death rate from respiratory diseases, 2.01.

With the exception of the zymotic death rate and the Phthisis death rate, which have increased by 1.76 and 0.26 respectively, the above rates have decreased as follows:—Birth rate, 0.24; general death rate, 1.49; infant mortality rate, 5.3; and the respiratory death rate, 1.39.

Three hundred and eight births were registered during the year, and one hundred and forty-seven deaths, of the latter forty-seven were of children under one year, and twenty-two of persons sixty-five years and upwards.

Excluding Chicken-pox fifty cases of infectious disease were notified as follows:—Diphtheria 4, Membranous Croup 1, Erysipelas 2, Scarlet fever 41 and Enteric fever 2.

Thirty-two deaths occurred from zymotic disease, viz:—Measles 4, Scarlet fever 5, Whooping cough 10, Diphtheria and Membranous croup 4, and Diarrhœa 9.

Phthisis caused 10 deaths; respiratory diseases, 18; heart diseases, 10; accidents, 4; and premature birth, 12.

It is estimated that the population had increased since the previous year by over 700.

The birth rate was lower than the average for the years 1896-1905. The infant mortality rate was slightly lower than during the previous year, and also eight per 1,000 births lower than the average for the ten previous years.

As this district is not divided into localities the medical officer gives in Table II. required by the Local Government Board, the estimated population of each street in the district, the number of deaths which occurred in each street, the death rate per 1,000 which such deaths represent, and the mean general death rate for each street for the last ten years. A list is also provided of the months in which Scarlet fever, Enteric fever and Diphtheria were present, the number of cases in each month and the streets in which they occurred. In connection with the infectious diseases notified, information is also given as to the street in which each case occurred, and the age period at which the patients were attacked. Information is also given as to the localities in which the general death rate was above 18 per 1,000 and in which it was below 10 per 1,000 of the population.

The rise in the zymotic death rate the medical officer points out was due to the fatal nature of the Whooping cough epidemic which occurred during the first quarter of the year, causing ten deaths, and to the prevalence of Diarrhœa in the autumn causing nine deaths.

Measles was epidemic during the second, third, and fourth quarters of the year with a partial abatement in September and October.

The five cases of Diphtheria were notified during March and April (3 cases) and December (2 cases).

Influenza was prevalent during the first and last quarters of the year. Nineteen cases of infectious disease were removed to the Isolation Hospital.

Factory and Workshop Act.—The factories numbered five and the workshops thirty-one. They all provided considerably more than the cubic air space required by law; only one defect was found which was immediately remedied.

Improvements.—The Small-pox hospital was removed and a joint small-pox hospital provided under the Wallsend and Willington Joint Hospital Board. This arrangement will reduce the maintenance and working expenses to each authority and also by the removal of the Small-pox hospital the obstacle to the enlargement under loan of the Joint Hospital for diseases other than Small-pox, will cease to exist.

Yards were laid with cement concrete in Potter Street and Church Street. Several sanitary improvements were effected at the Newcastle Arms, and the condition of several more or less dilapidated houses in Chapel Street, Brunton Street, Main Street and Dock Street was temporarily improved.

Regulations under the Dairies, Cowsheds and Milkshops Order were adopted.

An extension of the Newcastle and Gateshead Water Co.'s. mains was made in Bewick Row.

Three more privy ashpits were abolished.

Requirements.—Scavenging would be carried out in a much more satisfactory manner and the back streets left in a much more cleanly condition if the removal of refuse were undertaken by the council's own men. Considerable structural alterations to most of the houses in Keelman's Row were required.

The abolition of all privy middens should be effected.

Legal proceedings should be taken against those parents who allow their children while in an infectious condition to mix with others. Several convictions have been obtained in other quarters. The above course of action is the only one which offenders are able to understand and appreciate. Similarly legal proceedings should be taken against those tenants in Keelman's Row who pitch house refuse and slopwater into the channel close to the footpath.

* 16·89 if the death of one non-resident occurring within the district be deducted and if five deaths of residents occurring without the district be added.

RURAL DISTRICTS.

ALNWICK.

Medical Officer of Health, A. SCOTT PURVES, M.D.

Area, 93,009 acres; estimated population, 12, 676; birth rate, 23.98; general death rate, *12.85; zymotic death rate, 0.55; infant mortality rate (per 1,000 births), 1.25; Phthisis death rate, 0.86; death rate from respiratory diseases, 1.1.

Of the above rates the Phthisis death rate was the same as for the preceding year, the infant mortality rate increased by 2.68, and the remaining rates decreased as follows:—Birth rate, 1.88; general death rate, 1.3; zymotic death rate, 0.08 and the respiratory death rate 0.4. The latter rate was the lowest recorded among rural districts.

Three hundred and four births were registered during the year, and one hundred and sixty-three deaths; of the latter thirty-eight were of children under one year, and sixty-one of persons sixty-five years and upwards.

Fifty-five cases of infectious disease were notified as follows:—Diphtheria 14, Erysipelas 9, Scarlet fever 31, and Enteric fever 1.

Seven deaths occurred from zymotic disease, viz:—Measles 2, Scarlet fever 1, Whooping cough 1, Diphtheria 2, and Diarrhœa 1.

Phthisis caused 11 deaths; respiratory diseases, 14; heart diseases, 24; accidents, 7; and premature birth, 2.

The general death rate for the whole district is slightly lower than during the previous year, also 3.5 per 1,000 less than in the year 1904, and 1.95 per 1,000 less than the average rate for the years 1896-1905. Not only is this the case but the *actual number* of deaths registered was less during 1906 than during 1905 and also during 1905 than during 1904, although the population had slightly increased during these years.

The following table indicates the above-named variations and also gives particulars relating to births and birth rates, the various mortality rates, the cases of infectious disease notified and the attack rate of these latter per 1,000 population in each sub-division.

Sub-district.	Popu- lation.	Births.		Deaths.		Infant deaths.		Zymotic deaths.		Notifications of infectious disease.	
		No.	Rate.	No.	Rate.	No.	Rate per 1,000 births.	No.	Rate.	No.	Rate.
Warkworth ...	7,391	197	26.6	101	13.5	29	147.2	6	0.81	34	4.6
Embleton ...	4,618	94	20.3	53	11.4	8	85.1	1	0.21	18	3.8
Denwick ...	667	13	19.5	13	19.5	1	76.9	0	Nil.	3	4.4
Whole district	12,676	304	23.98	167	13.1	38	125.0	7	0.55	55	4.3

The birth rate as usual varied considerably in the three sub-divisions into which the medical officer divides his district; thus in the Warkworth division the rate was 26.6, in the Embleton 20.3, and in the Denwick division 19.5 per 1,000 population.

The medical officer calls attention to the variations in the general death rate in the three sub-divisions:—"It will be seen that in the two larger sub-districts of Warkworth and Embleton there are reductions in the numbers of deaths and death rates while in the small sub-district of Denwick there is an increase, which latter must be regarded as more or less accidental as the population is too small to give a steady average.

The medical officer also remarks upon the considerable variation in the infant mortality rate in the three sub-divisions during the year under consideration and also during the three previous years.

As to the causes of the high infant mortality the medical officer says, "I fear we cannot avoid the conclusion that the increase is mainly due to the usual cause, *i.e.*, the feeding of young infants with things which are unsuitable to their undeveloped digestive powers. There are two other things the use of which, I am convinced, tends materially to increase the death rate among young children, and these are the old fashioned long tubed feeding bottle, and an article too commonly used known as a 'dumb teat'; the former being impossible to wash clean, even with the fraudulently reassuring brush supplied with it, immediately becomes a source of contamination to all the milk passing through its tube; the latter by evenly dividing its sojourn between the baby's mouth and the kitchen floor is without doubt the vehicle of all kinds of sepsis. The 'dumb teat' is a contrivance which may in some obscure way convey a moral lesson to the infant mind (if the child survive) as to the deceptiveness of human affairs, but its material effects are such as to make one glad to have been born before modern inventiveness reached such a state of perversion."

There was a marked reduction in the number of infectious cases notified, the reduction as compared with the year 1905 being twenty-one and compared with the year 1904 the reduction was one hundred and ten.

The following table indicates the diseases and the number of cases notified from each sub-division and the attack rate per 1,000 population.

Disgases.	Warkworth.	Embleton.	Denwick.	Total of Notifica- tions ;	Attack rate per 1,000 population.
Diphtheria ...	5	8	1	14	1·1
Erysipelas ...	3	6	0	9	0·7
Scarlet fever ...	25	4	2	31	2·4
Enteric fever ...	1	0	0	1	0·07
Whole district...	34	18	3	55	4·3

Scarlet fever was present in the district during each month with the exception of April, June and August, but never assumed an epidemic form. Seven out of the fourteen cases of Diphtheria occurred at Glanton and four at Acklington; one case only occurred at each of the following places, Topton Crescent, Hedgeley and Broxfield. Measles was prevalent during August, November and December, and Whooping cough during January and July.

Factory and Workshop Act.—Ninety-five workshops were on the register; they were all systematically inspected and apparently no defects were discovered.

Improvements.—Some houses were built at Warkworth and Shilbottle, and at an obstructive building at Embleton some improvements have been effected. Since the Burgher's Waterworks at Warkworth became vested in the council in the year 1905 considerable improvements in distribution have been effected, thus, the mains and fittings at Warkworth and for the school premises at Alnmouth have been renewed; a new water supply has been provided at Shawdon Hill and improvements in the water distribution have been effected at Hauxley, Togston, and Newton-on-the-Moor. Considerable improvements were effected in some of the sewers at the top of Whittingham Lane, at Warkworth, Dunston, Radcliffe, Bilton Banks, Broxfield Cottages, Glanton, Shilbottle and Alnmouth. Drains have been improved at Helsay, Warkworth and Warkworth Tile Sheds, at Rennington, Belton, Edlingham Farm, Christon Bank, Craster West Farm, and Low Learchild.

Arrangements were made for more frequent and regular scavenging at Glanton, and at this place and also at Eglingham, the conditions of the out-offices of the schools were improved. Considerable improvements were also effected in the out-offices at the undermentioned places:—Ratcheugh Farm Cottages, The Star Inn Yard, the butcher's premises adjoining the Railway Inn at Embleton; in the Mason's Arms Lane, Warkworth; at Glanton Dene House; Shawdon Hill Cottages; at Littlehoughton Cottage and at Straughan's Buildings, Shilbottle.

House property was improved in Warkworth, Alnmouth, Shilbottle, Shipley Lane, at the Red Row, Denwick, and at Hartlaw Cottages.

Many cases of overcrowding were dealt with. A Small-pox hospital was provided by the council in conjunction with the urban district council for the joint use of the two authorities.

Requirements.—A satisfactory water supply for Acklington, to the absence of which the outbreak of Diphtheria has been referred, also for the following places:—Acklington Low Park, Birling North Field, Dean Moor, Glanton North Field, Middle Cawledge Park, Shipley Lane, Sturton Grange South Side, and West Cawledge Park. A better condition of roads, alterations to back to back houses and privy accommodation at Radcliffe. More adequate privy accommodation at Embleton. A sewage disposal scheme at Rennington. The medical officer's report is not complete without the inclusion of all the five tables required by the Local Government Board. The extra cost for including the four tables would probably not amount to a sovereign for a hundred copies and the value to the public of the report is considerably reduced by the omission of the tables.

* 13·17 if the deaths of four resident occurring without the district be added.

BELFORD.

Medical Officer of Health, J. G. MACASKIE, L.R.C.P., L.R.C.S., D.P.H.

Area, 39,619 acres; estimated population, 5,242; birth rate, 19.26; general death rate, 12.01; zymotic death rate, 0.38; infant mortality rate (per 1,000 births), 99.00; Phthisis death rate, 1.14; death rate from respiratory diseases, 1.33.

Of the above rates the respiratory death rate was the same during the year under consideration as in the preceding year; the infant mortality rate and the Phthisis death rate increased by 5.55 and 0.38 respectively; the remaining rates decreased as follows:—Birth rate, 1.17; general death rate, 1.93; and the zymotic death rate, 0.76.

One hundred and one births were registered during the year, and sixty-three deaths; of the latter ten were of children under one year, and twenty-two of persons sixty-five years and upwards.

Twenty-two cases of infectious disease were notified as follows:—Diphtheria 4, Erysipelas 4, Scarlet fever 13, and Enteric fever 1.

Two deaths occurred from zymotic disease, viz:—Whooping cough 1, and Diphtheria 1.

Phthisis caused 6 deaths; respiratory diseases, 7; heart diseases, 4; accidents, 2; and premature birth, 3.

The population is practically the same as during the year 1905. The birth rate, which for the year under review was the lowest among rural districts, has fallen year by year since the year 1902 at which date and during each succeeding year it has been below the average for rural districts in this county, and also below the average for England and Wales. The medical officer divides his district into five localities; and

in the following table gives information of considerable interest relating to the population, birth rates, the various mortality rates, the cases of infectious disease notified, and the attack rate of the latter per 1,000 population in the several sub-divisions.

Sub-districts.	Popu- lation.	Births.		Deaths.		Infant deaths.		Zymotic deaths.		Notifica tio of infectious disease.	
		No.	Rate.	No.	Rate.	No.	Rate per 1,000 births.	No.	Rate.	No.	Rate.
Belford ...	744	14	18·8	12	16·1	2	142·8	0	Nil.	6	8·0
North Sunder- land	1,038	22	21·1	8	7·7	2	90·9	0	Nil.	3	2·8
Bamburgh ...	566	10	17·6	6	10·6	1	100·0	0	Nil.	0	Nil.
Beadnell ...	305	6	19·6	0	Nil.	0	Nil.	0	Nil.	11	3·6
Rest of district	2,589	49	19·6	37	14·2	5	102·0	2	10·77	2	0·7
Whole district	5,242	101	19·26	63	12·01	10	99·0	2	0·38	22	4·1

The population has slightly increased in the North Sunderland and Bamburgh sub-divisions, and has remained practically stationary in the Beadnell and decreased by seven in the Belford sub-division; the birth rate was highest (21.1) in the North Sunderland and lowest (17.6) in the Bamburgh sub-division.

The general death rate, which was the second lowest among rural districts, was highest (16.1) in the Belford and lowest (7.7) in the North Sunderland district.

In the Beadnell division no deaths occurred.

The infant mortality rate varied from 142.8 per 1,000 births in the Belford to 90.9 in the North Sunderland division.

The attack rate per 1,000 population by infectious disease varied from 8 in the Belford to nil in the Bamburgh sub-districts; also that the zymotic death rate was nil in the Belford, North Sunderland, Bamburgh and Beadnell sub-divisions and 0.7 in the rest of the districts.

In the beginning of the year Measles was so prevalent in the North Sunderland district that it was found necessary to close the schools there for five weeks. On account of the prevalence of Influenza and Whooping cough the school at Bamburgh was closed from February 23rd until April 2nd. On July 2nd it was found necessary to close the schools at North Sunderland for four weeks on account of an epidemic of Measles; and later on in the year the prevalence of the same disease in the Belford district necessitated the closing of the schools there.

In 1905 Tuberculosis caused five deaths. In 1906 it will be observed that the number has increased to twelve. The connection between Phthisis (consumption) and overcrowding is beginning now to be appreciated by the public, and the necessity for free ventilation of sleeping apartments recognised. The treatment of the disease in sanatoria is now established as a fact of great value; no doubt many cases are too far advanced to be benefitted by any form of treatment, but there are many others in whom the disease if taken in the early stages, can be arrested. An attempt should be made to recognise the disease as early as possible, and therefore it would be well to make it notifiable, so that if removal to a sanatorium is impossible on account of the cost, energetic home treatment may be begun at the earliest opportunity. In this way the patient has the best chance of recovery, and the risk of infection to others is reduced.

Factory and Workshop Act.—The workshops numbered seventy-three; they were all inspected, only one defect was discovered.

The rainfall for the year as recorded by Mr. Clark, at Bamburgh, was found to amount to 29.38. May appears to have been the wettest and October the driest months.

Improvements.—A new water supply was provided for some cottages at North Sunderland. Plans were passed for a school at Newham and for drainage of a school at Beadnell. One of the sewers at Sea Houses had a ventilating shaft provided and the method of supplying the flushing tanks was improved. A new sewer was laid in Beadnell Back Lane and a sewer at Westfield Road and one on the west side of Sea Houses were extended.

All houses in which a death from Phthisis occurred were disinfected. Three new houses and a school were erected.

Requirements.—Improved water supplies were still needed in some parts of the district; notably at Beadnell and Swinhoe. One or more slaughter houses in Belford needed attention as regards water supply and condition of yards, and the drainage was unsatisfactory at Middleton Cottages and Bell's Hill.

BELLINGHAM.

Medical Officer of Health, J. P. ELLIOT, L.R.C.P., L.R.C.S., L.M.

Area, 246,580 acres; estimated population, 6,000; birth rate, 20.16; general death rate, 16.0; zymotic death rate, nil; infant mortality rate (per 1,000 births), 140.49; Phthisis death rate, 0.66; death rate from respiratory diseases, 1.5.

Of the above rates the birth rate, the zymotic death rate and the Phthisis death rate have decreased by 2.67, 0.33 and 0.5 respectively; the remainder of the rates have increased as follows:—General death rate, 3.34; infant mortality rate, 89.4; and the respiratory death rate, 0.5.

One hundred and twenty-one births were registered during the year, and ninety-six deaths; of the latter seventeen were of children under one year, and forty-three of persons sixty-five years and upwards.

Forty-eight cases of infectious disease were notified as follows:—Diphtheria 4, Erysipelas 5, and Scarlet fever 39.

No deaths occurred from zymotic disease (a statement which can only be made as regards two other sanitary areas, viz., Rothbury Urban and Norham & Islandshire Rural Districts) though the cases of notifiable infectious disease were more than twice as many as during the previous year.

Phthisis caused 4 deaths; respiratory diseases, 9; heart diseases, 17; accidents, nil; and premature birth, 6.

The population was estimated to be the same as during the year 1905 and one hundred and thirty-five less than the average for the years 1896-1905.

The birth rate was the second lowest among rural districts and the lowest recorded during the last eleven years in this district.

The general death rate though not high was the highest recorded since the year 1900.

The infant mortality rate was not only higher than during the previous year by 89.4 per thousand births, but was also the highest recorded since the year 1898.

An outbreak of Measles occurred in May and continued until August; a further outbreak was reported in November, and Whooping cough was prevalent during July and August.

An epidemic of Scarlet fever occurred during the last four months of the year in the Bellingham, Kirkwhelpington, Birtley and Wark districts. Influenza was prevalent in May, June and December.

Diphtheria was confined to Kirkwhelpington and Bellingham, two cases in each place. The medical officer divided his district into six sub-divisions and the following table indicates for each sub-division the births, birth rates, the various mortality rate, the notification of infectious disease and the attack rates of the latter per 1,000 population.

Sub-districts.	Popu- lation.	Births.		Deaths.		Infant deaths.		Zymotic deaths.		Notifications of infectious disease.	
		No.	Rate.	No.	Rate.	No.	Rate per 1,000 births.	No.	Rate.	No.	Rate.
Bellingham ...	1,256	30	23·8	21	16·7	6	200·0	—	—	19	15·0
Falstone ...	1,188	22	18·5	16	13·4	4	181·1	—	—	2	1·6
Corsenside ...	759	24	31·6	20	26·3	3	125·0	—	—	—	—
Elsdon ...	1,461	15	10·2	10	6·8	1	66·6	—	—	—	—
Wark and Birtley	1,054	21	19·2	23	21·8	2	95·2	—	—	8	7·5
Kirkwhelp- ington	621	9	14·4	5	8·0	1	111·1	—	—	19	30·5
Workhouse ...	—	—	—	1	—	—	—	—	—	—	—

It will be seen from the above table that the birth and general death rates were highest in the Corsenside district (31·6 and 26·3 respectively) and lowest in the Elsdon division (10·2 and 6·8 respectively), also that the infant mortality rate per 1,000 births varied very greatly in the different sub-divisions; the births, however, registered in any district were so few that one death more or less would influence the infant mortality rate to a misleading extent.

The attack rate from notifiable infectious diseases varied considerably; thus in the Kirkwhelpington division it was 30·5 per 1,000 population; in the Bellingham and Wark and Birtley districts 15 and 7·5 respectively; in the Falstone division 1·6, while from the Corsenside and Elsdon districts no cases were notified.

Improvements.—A few new houses were built during the year. The water supply for Wark was greatly improved and an extension of the Newcastle and Gateshead Water Co.'s mains was made to West Woodburn. Brandybank was also supplied with water and some progress was made with the negotiations for improving the supply at Bellingham. A new system of sewerage and sewage disposal for Falstone was decided upon and improvements in the method of sewage disposal were made in Woodburn. At Bellingham the main sewer was extended. A new system of sewerage and sewage disposal was provided at Knoppingsholm. Flushing chambers were put in at Otterburn and a sewer was diverted at Otterburn Manse. Drains were relaid at Kirkwhelpington, Low Shaw and at Bellingham (school). Improved sanitary conveniences were provided at Latterford Door, at Three Farms and at Kirkwarle. At Bellingham three privies were converted into w.c.'s, and arrangements were made for scavenging operations to be carried out more regularly.

Requirements.—A water supply for Birtley and West Woodburn, and an increased supply for Bellingham.

All workshops should be registered by Section 131 of the Factory and Workshop Act, 1901. This does not appear to have been done nor any visits of inspection to have been paid.

Means of isolating cases of Small-pox were needed.

The medical officer's report should be printed and also the five tables required by the Local Government Board should be incorporated with the printed report, without which no annual report is complete.

CASTLE WARD.

Medical Officer of Health, WILLMOT HOLMES, M.R.C.S., L.R.C.P.

Area, 85,124 acres; estimated population, 11,203; birth rate, 20.88; general death rate, 13.3; zymotic death rate, 1.42; infant mortality rate (per 1,000 births), 145.29; Phthisis death rate, 0.71; death rate from respiratory diseases, 1.96.

With the exception of the birth rate and the Phthisis death rate, which have decreased by 3.56 and 0.03 respectively, all the above rates have increased as follows:—General death rate, 1.91; zymotic death rate, 0.41; infant mortality rate, 54.39; and the respiratory death rate, 1.04.

Two hundred and thirty-four births were registered during the year, and one hundred and forty-nine deaths; of the latter thirty-five were of children under one year, and fifty-five of persons sixty-five years and upwards.

Ninety-seven cases of infectious disease were notified as follows:—Small-pox 2, Diphtheria 30, Membranous croup 2, Erysipelas 14, Scarlet fever 23, and Enteric fever 26.

Sixteen deaths occurred from zymotic disease, viz.:—Measles 1, Whooping cough 1, Diphtheria and Membranous croup 2, Enteric fever 3, other continued fever 1, and Diarrhœa 8.

Phthisis caused 8 deaths; respiratory diseases, 22; heart diseases, 15; accidents, 3; and premature birth, 5.

The birth rate was not only 3.5 per 1,000 lower than in 1905 and 4.7 lower than the average for the years 1896-1905, but was the lowest recorded during the past eleven years.

The infant mortality rate was the second highest recorded in rural districts, and the highest recorded in this district since 1901, the great increase in this rate during the year 1906 being largely due to zymotic diarrhœa which caused eight deaths.

The zymotic death rate was the third highest among rural districts.

The Phthisis death rate was the third lowest recorded in rural districts, and the respiratory death rate was the second highest among rural districts.

This is one of the very few districts in which cases of Small-pox were notified; two cases occurred in the autumn at Bolam West Houses. Diphtheria occurred during every month of the year except August, and of the thirty cases of this disease which were notified during the year, five occurred at Smallburn, four at Ponteland, three at Houghton and Milbourne Low House, two at Dinnington Colliery, Belsay, and High Luddick, and one case at each of the following places:—Milbourne, S.E. Farm, Woolsington, Dinnington, Benridge Hall Cottage, Kirkley South Lodge, Heddon Laws, Fawdon House, West Houses, and the Workhouse, Ponteland. The Coates' Endowed Schools, Ponteland, were closed in January on account of Diphtheria.

Scarlet fever was prevalent during every month of the year with the exception of June, but never assumed epidemic proportions. Six cases occurred at Dinnington Colliery, two at Ponteland, Coxlodge Station, Whalton, Higham Dykes and East Heddon and one at each of the under-mentioned places:—Houghton Hill Head, Heddon-on-the-Wall, Blayney Row, Kenton, Hazelrigg, Shotton Grange and Ferneychester Farm.

A greatly increased number of Enteric fever cases were notified during the months of July and November; twenty-four of the total of twenty-six occurred at Dinnington Colliery; ten of the above were in Plantation Row, five in North Row, five in Single Row, and one case in each of the following:—Sinkers' Row, Augusta Terrace, Bigg Row, and Walker Street; one case occurred at High Whalton Farm Cottages and one in Fawdon Square.

Measles was prevalent during the months of May, July, November and December, necessitating the closure of the Ponteland Cottage Homes Schools. Whooping cough was prevalent during the months of November and December.

The medical officer divides his district into seven localities. The following table gives information of considerable interest relating to the population, birth rates, the various mortality rates, the cases of infectious disease notified, and the attack rate of the latter per 1,000 population in the several sub-divisions.

Sub-districts.	Popu- lation.	Births.		Deaths.		Infant deaths.		Zymotic deaths.		Notifications of infectious disease.	
		No.	Rate.	No.	Rate.	No.	Rate per 1,000 births.	No.	Rate.	No.	Rate.
Heddon ...	1 353	28	20·7	21	15·5	8	285·7	2	1·47	10	7·3
Newburn ...	459	8	17·4	2	4·3	1	125·0	—	—	5	10·8
Stamfordham and Matfen	1,342	37	27·5	18	13·4	3	81·0	—	—	—	—
Kirkheaton & Capheaton	330	4	12·1	4	12·1	2	500·0	1	3·03	2	6·0
Gosforth (N.)	1,390	27	19·4	18	12·9	4	148·1	3	2·15	6	4·3
Stannington	2,102	30	14·2	21	9·9	1	33·3	1	0·47	10	4·7
Ponteland, &c.	4,227	100	23·6	65	15·3	15	150·0	9	2·12	64	15·1
Whole district	11,203	234	20·88	149	13·3	34	145·3	16	1·42	97	8·6

It will be seen from the above table that the birth rate was highest in the Stamfordham and Matfen, Ponteland, Heddon and Gosforth districts in the order named; and lowest in the Kirkheaton and Stannington sub-divisions; that the general death rate was highest in the Heddon and Ponteland districts and lowest in the Stannington division.

The infant mortality rate varied greatly in the different sub-divisions, but the births registered in all save Ponteland were so few that the infant mortality rates have no special interest, since for example if in any district only one birth occurs and the child dies before it reaches the age of twelve months, the infant mortality rate for that division would be one thousand per thousand births.

No deaths occurred from zymotic disease in either the Newburn or the Stamfordham and Matfen districts; in the last-named division no cases of infectious disease were notified.

Factory and Workshop Act.—Four factories and nine workshops were on the register; they were all inspected during the year and no defects were discovered.

Improvements.—A considerable number of houses were erected, chiefly at Hazlerigg, Prestwick and Ponteland.

New water supplies for Dinnington East Houses, for three houses at Kenton Bank Foot, and for the Havannah Dairy Farm were provided. The water supplies for Eachwick Moor, Low Luddick, Kirkley Hall, and Benridge Hall were improved. Sewage disposal works were provided in connection with the North Eastern Reformatory, Netherton.

Arrangements were made under which patients suffering from infectious disease (other than Small-pox) may be admitted from any portion of this district to the Newburn, Gosforth and Castle Ward Hospital.

The Private Streets Work Act, 1892, was adopted for Dinnington Colliery which, the medical officer says, "will prove a boon to its inhabitants. The condition of most of the streets, especially in wet weather, baffles description; the mud in some places being at least one foot deep. When the plans which have been drawn out are executed, the health and comfort of its inhabitants will be considerably improved."

A considerable number of minor improvements were effected in various portions of the district.

Requirements.—An isolation hospital for Small-pox cases. There are a large number of insanitary privy ash-pits, which on account of their structural condition cannot be thoroughly emptied or disinfected. It would greatly conduce to the comfort and health of those living near if they were all connected with w.c.'s or absolutely water tight earth closets. A better water supply for Ponteland.

During the year samples were taken from four wells all of which were liable to pollution. In the case of one of the samples (Bell Villa) the county analyst reported that "in its present condition the water cannot be considered suitable for a domestic supply."

As to another sample (Caughey's Temperance Hotel) the analyst remarked, "This as far as its organic constituents are concerned, may be safely used for drinking. But the very large amount of nitrates suggests a large amount of previously existing organic matter containing nitrogen and should the present oxidising agencies fail in efficiency it might become a doubtful water. (If used it should be periodically examined)."

Of a third sample (Lady Well) they reported, "This is free from objectionable organic impurity, and is in our opinion quite suitable for use as a drinking water. The nitrates indicate that the water has at one period of its history contained nitrogenous organic matters which have been very completely oxidised."

Thus the sample from Bell Villa cannot in its present condition be considered suitable for domestic supply.

The sample from Caughey's Temperance Hotel gave evidence of previous pollution with subsequent oxidation (purification) of the organic matter and "if used should be periodically examined."

The water from Lady Well is the same nature as the last-mentioned and that taken in Fatkins field above is described as very pure but is constantly liable to pollution.

Pollution of the rivers Blyth and Pont and of the Ouseburn from premises in this sanitary district should be obviated.

GLENDALE.

Medical Officer of Health, ALEXANDER DEY, M.B., C.M.

Area, 147,942 acres; estimated population, 8,770; birth rate, 20.18; general death rate, 13.45; zymotic death rate, 0.57; infant mortality rate (per 1,000 births), 67.79; Phthisis death rate, 1.02; death rate from respiratory diseases, 1.71.

With the exception of the birth rate and the infant mortality rate, which have decreased by 0.8 and 40.9 respectively, all the above rates have increased as follows:—General death rate, 0.8; zymotic death rate, 0.35; Phthisis death rate, 0.23; and the respiratory death rate, 0.57.

One hundred and seventy-seven births were registered during the year, and one hundred and eighteen deaths; of the latter twelve were of children under one year and fifty-two of persons sixty-five years and upwards.

Fifty-one cases of infectious disease were notified as follows:—Diphtheria 2, Erysipelas 8, and Scarlet fever 41.

Five deaths occurred from zymotic disease, viz:—Scarlet fever 1, Diphtheria and Membranous croup 1, and Diarrhœa 3.

Phthisis caused 9 deaths; respiratory diseases, 15; heart diseases, 19; accidents, 4; and premature birth, 1.

It is estimated that the population has remained stationary since 1901. The birth rate was the third lowest recorded in rural districts. The infant mortality rate was the second lowest in the county. The cases of infectious disease were considerably in excess of those present during the previous year, the increase being mainly due to the prevalence of Scarlet fever in and around Wooler during the last six months of the year, and among children attending the Lilburn School in September, October and November. It is, however, satisfactory to note that only two cases of Diphtheria occurred in the whole district and that Enteric fever was entirely absent. It was necessary to close the Wooler schools on account of Scarlet fever for eight weeks, and the West Lilburn school during October and November.

A few cases of Measles were recorded during the months of May and July.

Whooping cough furnished a few cases in each of the months of April, May, July and August.

During the months of January, February, August, November and December a few cases of Influenza were notified.

The medical officer divided his district into three localities.

Sub-districts.	Popu- lation.	Births.		Deaths.		Infant deaths.		Zymotic deaths.		Notifications of infectious disease.	
		No.	Rate.	No.	Rate.	No.	Rate per 1,000 births.	No.	Rate.	No.	Rate.
Wooler ...	4,549	94	20·6	55	12·1	7	74·7	4	0·87	36	7·9
Ford ...	4,200	81	19·2	60	14·2	5	61·7	1	0·23	15	3·6
Workhouse ...	33	2	60·6	3	90·9	0	Nil.	0	Nil.	0	Nil.

From the above table it will be seen that excluding the Workhouse the population of the remaining sub-divisions is very similar, and the birth rate shows but little variation.

The general death rate in the Ford district with the smaller population is nearly 2 per 1,000 population higher than in the Wooler division, but on the contrary the infant mortality rate in the Wooler sub-division is thirteen per 1,000 births higher than in the Ford district.

The infectious diseases notified were more than twice as many in the former division as in the latter and the attack rate was practically twice as high in the Wooler as in the Ford sub-district.

Factory and Workshop Act.—It is not stated in the medical officer's report whether a register is kept of the Factories and Workshops in the district, but Sec. 131 of the Act lays it down definitely that this must be done. The medical officer reports that all the workshops were inspected during the year and that no defects of a serious nature were found.

Improvements.—Eleven new houses were built in Wooler and a new hotel was partly built. Two cottages were built at Wooler Cottage Farm and two at Marley Knowe.

The long needed fourth slaughter house was completed and occupied.

Requirements.—Increased storage capacity at the Wooler Waterworks, a two days supply being totally inadequate to meet the requirements of the inhabitants during a prolonged drought and at the same time to provide the necessary supply in case of fires breaking out. A more abundant supply was also needed in other portions of the district especially at Lowick. The main sewer leading to the sewage disposal works, which, as it crossed the Wooler water was washed away in the Spring, remained untouched, and the pollution of the river by crude sewage was re-established. The above-named condition should be remedied and also the enlargement of the sewage disposal works and alterations in the size and arrangement of the material used in the bacteria bed should be carried out.

HALTWHISTLE.

Medical Officer of Health, W. R. SPEIRS, M.B., C.M.

Area, 96,333 acres; estimated population, 9,215; birth rate, 27.34; general death rate, 13.34; zymotic death rate, 0.75; infant mortality rate (per 1,000 births), 103.17; Phthisis death rate, 1.19; death rate from respiratory diseases, 1.3.

With the exception of the infant mortality rate and the respiratory death rate, which have decreased by 8.4 and 0.04 respectively, all the above rates have increased as follows:—Birth rate, 0.15; general death rate, 1.43; zymotic death rate, 0.08; and the Phthisis death rate, 0.3.

Two hundred and fifty-two births were registered during the year, and one hundred and twenty-three deaths; of the latter twenty-six were of children under one year and forty of persons sixty-five years and upwards.

Eighty-two cases of infectious disease were notified as follows:—Diphtheria 50, Erysipelas 8, Scarlet fever 18, and Enteric fever 6.

Seven deaths occurred from zymotic disease, viz:—Diphtheria and Membranous croup 5, and Diarrhœa 2.

Phthisis caused 11 deaths; respiratory diseases, 12; heart diseases, 21; accidents, 3; and premature birth, 5.

It was estimated that the population had increased by about 315 during the previous twelve months.

The medical officer divides his district into five sub-divisions, viz., No. 1, Haltwhistle; No. 2, Melkridge and Henshaw; No. 3, Blenkinsopp and Thirlwall; No. 4, Lambley and Hartley Burn; and No. 5, the remaining townships.

The following table gives the population, births and birth rates, the various mortality rates, the cases of infectious disease notified, and the attack rate of the latter per 1,000 population in the several sub-divisions.

Sub-districts.	Popu- lation.	Births.		Deaths.		Infant deaths.		Zymotic deaths.		Notifications of infectious disease.	
		No.	Rate.	No.	Rate.	No.	Rate per 1,000 births.	No.	Cate.	No.	Rate.
1. Haltwhistle ...	3,600	131	36.3	63	18.4	17	129.8	2	0.55	38	10.5
2. Melkridge and Henshaw	1,146	21	18.2	14	12.2	1	47.6	2	1.64	17	14.8
3. Blenkinsopp & Thirlwell	1,566	32	20.4	18	11.5	2	62.5	1	0.63	8	5.1
4. Lambley and Hartleyburn	875	20	22.8	6	6.8	1	50.0	0	Nil.	3	3.4
5. Rest of district	2,028	48	23.6	19	9.3	5	104.1	2	0.98	16	7.8
Whole district	9,215	252	27.3	123	13.3	26	103.1	7	0.75	82	8.8

The birth rate for the whole district had slightly increased and was the highest (27.3) recorded since the year 1902. In the No. 1 sub-district it was again very much higher than in any other sub-division.

The general death rate for the district as a whole though higher than during the year 1905 was below the average for the previous ten years; this rate was again highest in the No. 1 and lowest in the No. 4 district. The infant mortality rate was highest in the No. 1 and lowest in the No. 2 district.

The zymotic death rate and the attack rate per 1,000 population were both highest in the No. 2 and lowest in the No. 4 district.

Of the fifty cases of Diphtheria twenty-three occurred in the No. 1 district, as did five of the eight cases of Erysipelas, six of the eighteen Scarlet fever cases, and four of the six cases of Enteric fever.

A few cases of Measles occurred in January and again in September. Whooping cough was prevalent in January.

The medical officer again draws attention to the loss of infant life due to improper feeding and acknowledges the valuable educational influence exerted by district nurses.

Factory and Workshop Act.—The factories and workshops numbered 38; forty-six visits of inspection were made; fourteen defects were found, all of which were remedied during the year.

Improvements.—Plans for 34 houses were passed, three-fourths of which were in the township of Haltwhistle. Channelling, curbing, and re-laying of footpaths were carried out in Haltwhistle by the County Council and some new streets were made up.

A portion of the water main for Haltwhistle which had been damaged through mining operations was relaid with iron pipes. Schemes were prepared and adopted for supplying thirty to forty houses at Haltwhistle (North Side) with water and also for supplying Melkridge, Longbyre, and Thorngraston.

Sewerage and water schemes were considered for Melkridge and a sewerage scheme for Gilsland. An enquiry was held by one of the Inspectors of the Local Government Board in consequence of an application by the district council for sanction to borrow £325 for providing a water supply for the village of Longbyre.

Requirements.—More houses were needed to meet the requirements of the increasing population and to obviate any tendency to overcrowding. A storage reservoir was still greatly needed for Haltwhistle, also water supplies for Haltwhistle (North Side), Longbyre, and Thorngraston. Sewerage schemes were required for Melkridge, Longbyre and Greenhead and at Haltwhistle a more rational use of the irrigation ground and the making up of several new roads and more frequent and more thorough scavenging on which subject the medical officer says, "The work is let by contract and the removal of house refuse was carried out in a very unsatisfactory manner, complaints from householders being of frequent occurrence. It may not be altogether fair to blame the contractor employed, as I am of opinion that satisfactory scavenging cannot now be accomplished by one man with a horse and cart. The number of houses in the township is now 745, building operations are going on and likely to continue for some time, and the ashpits in the more modern properties are only of small capacity and require frequent emptying. In some of the older property in the town the large ashpits are occasionally allowed to remain without attention till they almost overflow; incomplete emptying probably then takes place when the upper portion only in the pit is removed, leaving behind an ever increasing mass of putrifying material always ready to play its part in disseminating disease."

A hospital for the isolation of patients suffering from infectious disease was still one of the requirements of this district; on this subject the medical officer says, "It is of the greatest interest both of the patients and the public that the former should be removed and isolated, and for this purpose the provision of a well-equipped hospital is a matter of urgent necessity, if epidemics of Diphtheria and Scarlet fever are to be nipped in the bud." Greater precautions were needed here as indeed everywhere for insuring a clean milk supply; the medical officer points out that the udders and hind quarters of milch cows are frequently covered with caked dung and dirt. The tables of statistics supplied on loose sheets should be incorporated with the medical officer's report, the value of the latter being considerably reduced by the above-named tables not being available for general use. The printing of these tables would probably not increase the cost of a 100 copies of the report by more than a sovereign.

HEXHAM.

Medical Officer of Health, T. CUNNINGHAM PENFOLD, M.B.,
C.M., M.R.C.S., L.R.C.P.

Area, 200,700 acres; estimated population, 27,947; birth rate, 24.61; general death rate, *13.06; zymotic death rate, 0.57; infant mortality rate (per 1,000 births), 93.02; Phthisis death rate, 1.43; death rate from respiratory diseases, 1.61.

With the exception of the birth rate which has decreased by 1.21, and the zymotic death rate which is the same as for the previous year, all the above rates have increased as follows:—General death rate, 0.65; infant mortality rate, 6.91; Phthisis death rate, 0.57; and the respiratory death rate, 0.04.

Six hundred and eighty-eight births were registered during the year, and three hundred and sixty-five deaths; of the latter sixty-four were of children under one year, and one hundred and thirty-two of persons sixty-five years and upwards.

One hundred and nineteen cases of infectious disease were notified as follows:—Diphtheria 26, Membranous croup 2, Erysipelas 25, Scarlet fever 59, Enteric fever 6, and Puerperal fever 1.

Sixteen deaths occurred from zymotic disease, viz:—Measles 2, Whooping cough 1, Diphtheria and Membranous croup 3, Enteric fever 2, and Diarrhœa 8.

Phthisis caused 40 deaths; respiratory diseases, 45; heart diseases, 61; accidents, 8; and premature birth, 8.

The population is estimated to have increased by 65 since the previous year.

The birth rate was the lowest recorded since the year 1898. The general death rate which was practically the same as in 1905 was (with the exception of that year) the lowest recorded during the last ten years, and was also 2.3 below the average for the years 1896-1905.

The infant mortality rate was 30.65 below the average for the same period.

The zymotic death rate (the same as during 1905) was 1.94 less than during 1904. The cases of infectious disease notified numbered 113 less than during the previous year and 368 less than during the year 1904, and were also the fewest recorded during any of the last ten years; the Phthisis death rate, however, was the highest recorded in rural districts.

The following table gives the population, the birth and birth rates, the various mortality rates, the cases of infectious disease notified, and the attack rate per 1,000 population of the latter in the several sub-divisions.

Sub-districts.	Popu- lation.	Births.		Deaths.		Infant deaths.		Zymotic deaths.		Notifications of infectious disease.	
		No.	Rate.	No.	Rate.	No.	Rate per 1,000 births.	No.	Rate.	No.	Rate.
Allendale ...	4,778	90	18.8	63	13.1	6	66.6	2	0.41	32	6.6
Bywell ...	13,389	387	28.9	173	12.9	44	113.6	11	0.82	71	5.2
Chollerton ...	5,408	125	23.1	73	13.4	9	72.0	0	Nil.	3	0.5
Hexham ...	4,372	85	19.6	67	15.3	5	58.1	3	0.67	13	2.9
Whole district	27,947	688	24.6	276	13.4	64	93.0	16	0.57	119	4.2

The very marked improvement which was recorded for the year 1905 in the Bywell sub-division, as regards all the mortality rates as well as the attack rate from infectious disease, was maintained during 1906. With the highest birth rate it was only natural that in this division

the highest infant mortality rate should be recorded, nevertheless the general death rate was lower than in any other sub-district, and in spite of the density and character of the population in this division, the attack rate from infectious disease was not the highest recorded in the four divisions of this sanitary district. On the subject of the reduced amount of infectious disease in the whole district the medical officer remarks, "This is one of the most satisfactory features of the report, and it may be confidently anticipated that the large drainage schemes which the council have in hand at present will in the future tend to still further materially reduce the amount of infectious disease." Under the head of Diphtheria the medical officer says, "The notifications from this disease continue to show a steady decline. Fifty-six were reported for 1905, while exactly half the number, viz., twenty-eight, have been reported for 1906. Only three patients have died from this disease and fortunately it has not been necessary to close any school on account of its prevalence." The disease was present in the Bywell and Hexham sub-districts.

Scarlet fever. Only fifty-nine cases of Scarlet fever occurred as compared with one hundred and eighteen during the previous year and two hundred and eighty-seven during 1904. The disease was present in three out of the four divisions. Six cases only of Enteric fever occurred which were also distributed over three of the four sub-districts. Measles was prevalent in the months of January, February and September, and a few cases occurred in June. A limited outbreak of Whooping cough occurred in January.

Factory and Workshop Act.—Eighty workshops were on the register and one hundred and eighty-seven visits of inspection were paid during the year; the defects discovered numbered fifty-two all of which were remedied.

Improvements.—Plans for seventy houses, principally in Stocksfield, Haydon Bridge and near the Dye works, Hexham, were passed, and fifty-five houses were built.

The Mickley Coal Company increased the height of the upstairs rooms in some of the old houses and improved the ventilation in many. Besides the above-named improvements in the Prudhoe district considerably fewer men were employed by the Coal Company so that in this sub-division there probably are a sufficient number of houses to make overcrowding in houses perfectly inexcusable. In the Fourstones parish three additional houses were built.

Very considerable improvements were effected in West Wylam and Mickley Square in the privy accommodation; at the former place the ashpits were lined with cement concrete and roofed in; at Mickley Square most excellent ash closets were provided in lieu of privy middens, and they were built at a greater distance from the houses than formerly. Nothing appears to have been done at Fourstones and Newbrough. Some improvements were effected at Acomb.

Plans were also passed for improvements on school premises at Allendale, Great Whittington, Halton Shields, and on the East Oakwood Estate. The substitution of w.c.'s for the insanitary privy middens previously existing at the Allendale School, and also the provision of a water supply and drainage created an improvement which can only be appreciated by those who have compared the present conditions with those previously existing.

Nearly eight hundred yards of water mains were laid by the Newcastle and Gateshead Water Company in the Stocksfield district.

Application was made to the Local Government Board for their sanction to a loan for procuring a water supply for the village of Catton, and for Thornleygate. A similar application was made to the Board with a view of providing a storage reservoir at Corbridge. Plans were passed for new sewage disposal schemes at Newbiggin, East Oak-

wood and Littlestone. Under the head of sewerage the medical officer remarks, "A good deal of work has been done by the council in extending and improving the sewerage systems in various parts of the district. The village of Ovingham has been provided with two sewage disposal works, one at the west and another at the east portion of the village. At Prudhoe new sewers are being laid for the remaining portion of the town, while new sewers and sewage disposal works have been provided for West Wylam, each house now having a drain connected with the sewer. Plans for new sewage disposal works and new main sewers for Wylam, on the North side, have been approved by the council, and only await confirmation by the Local Government Board. At Haydon Bridge the main sewer on the north side of the village has been diverted from the river at the bridge end, and carried to the new sewage disposal works provided near the gas works. The open sewer in California Gardens, Haydon Bridge, has been piped in for a distance of 100 yards leaving 200 yards of open sewer to be completed in the near future. At Allendale, the Church Dene sewer has been extended for a distance of fifty yards, and the main sewer extended up the Forstersteads road about 180 yards."

The sewage disposal works for Prudhoe, Prudhoe Castle, Low Prudhoe and West Wylam were completed and a scheme of sewerage extension at Prudhoe was considered, the object in view being the connecting of a portion of the district previously unconnected with the new sewage disposal works.

Plans were passed for a temporary school at Corbridge.

Requirements.—Additional or improved water supplies continued to be greatly needed for Haydon Bridge, Corbridge, High Mickley, and Newbrough. Sewerage schemes were still required for South Wylam, Hagg Cottages, Ovington, Haydon Bridge, Riding Mill, Stocksfield, Merryshields, Birchnook, Corbridge, Acomb and Newbrough.

The construction and situation in confined spaces of many privy ashpits in Prudhoe, Low Prudhoe, Newbrough and other places make it highly desirable that these insanitary erections should be replaced by w.c.'s or properly constructed ash closets.

A washhouse and disinfecting chamber were still unprovided at the Edgewell hospital and it is highly desirable that this institution should be in telephonic communication with the medical officer's house.

The floors of one or more of the slaughter houses were very faulty and with one exception none of the occupiers had had any vocered receptacles for offal, etc.

Many houses at Acomb are entirely unprovided with drainage facilities, and though a Committee was appointed to deal with this matter no alterations have been effected and the contents of privy middens and all slop water are directed into the nearest water course. The sewer for the portion of the village which is drained also discharges into the same burn.

* 13.45 if the deaths of eleven persons belonging to, but occurring outside of the the district be added.

MORPETH.

Medical Officer of Health, J. P. PHILIP, M.D., D.P.H.

Area, 85,498 acres; estimated population, 17,400; birth rate, 28.21; general death rate, *17.41; zymotic death rate, 1.66; infant mortality rate (per 1,000 births), 134.41; Phthisis death rate, 0.86; death rate from respiratory diseases, 1.72.

With the exception of the zymotic death rate, which has increased by 0.08, all the above rates have decreased as follows:—Birth rate, 1.02; general death rate, 0.97; infant mortality rate, 6.43; Phthisis death rate, 0.37; and the respiratory death rate, 0.1.

Four hundred and ninety-one births were registered during the year, and three hundred and three deaths; of the latter seventy-seven were of inmates of the County Asylum not belonging to the district, leaving two hundred and twenty-six who were residents in the district at the time of their death. Of these latter sixty-six were of children under one year and fifty-six of persons sixty-five years and upwards.

Ninety-five cases of infectious disease were notified as follows:—Diphtheria 36, Membranous croup 1, Erysipelas 8, Scarlet fever 35, Enteric fever 14, and Puerperal fever 1.

Twenty-nine deaths occurred from zymotic disease, viz:—Measles 5, Scarlet fever 2, Whooping cough 3, Diphtheria and Membranous croup 4, Enteric fever 2, and Diarrhœa 13.

Phthisis caused 15 deaths; respiratory diseases, 30; heart diseases, 25; accidents, 3; and premature birth, 12.

The medical officer divides his district into three localities—Colliery, Agricultural, and Asylum—the county asylum being in the colliery division of this district. The population of the colliery division is estimated to have increased by 400 since the previous year and that on the agricultural to have remained stationary.

The birth rate (which was lower than in either of the two previous years) was nevertheless the second highest recorded in rural districts. The following table gives the births, birth rates, the various mortality rates, the notifications of infectious disease and the attack rate of the latter per 1,000 population in the several sub-divisions.

Sub-districts.	Popu- lation.	Births.		Deaths.		Infant deaths.		Zymotic disease.		Notification of infectious disease.	
		No.	Rate.	No.	Rate.	No.	Rate per 1,000 births.	No.	Rate.	No.	Rate.
Colliery ...	12,900	439	34.0	*196	*15.2	58	132.1	22	1.70	44	3.4
Agricultural	4,500	52	11.5	36	6.8	8	153.8	7	1.55	46	10.2
Asylum ...	...	...	...	...	...	...	...	...	...	5	...
Whole district	17,400	491	28.2	227	13.9	66	134.4	29	1.66	95	5.4

*Excluding Asylum.

From the above table it will be seen that the birth rate was in the Colliery division 34, and in the agricultural 11.5 per 1,000; the general death rate (excluding deaths at the Asylum) was in the colliery division 15.2, and in the agricultural 6.8 per 1,000.

The infant mortality was highest (153.8 per 1,000 births) in the agricultural sub-division, but as only fifty-two births were registered in this division the infant mortality rate is misleading. The zymotic death rates were nearly equal in these two sub-divisions, and for the whole district the zymotic death rate was the second highest among rural districts; the attack rate per 1,000 population from notifiable infectious diseases was three times as high in the agricultural as in the colliery divisions.

The death rate from respiratory diseases (other than Phthisis) was the third highest recorded in rural districts.

There was a considerable reduction (41) in the cases of infectious disease notified. Only two-fifths of the number of Scarlet fever cases notified in 1905 and two-thirds of the Enteric fever cases, but twice as many people were attacked by Diphtheria during the year under review as during the previous year.

Excluding the five cases of infectious diseases which were notified from the Asylum, more cases occurred in the Agricultural than in the Colliery division, though the population of the latter was nearly three times that of the former.

Twenty of the thirty-seven Diphtheritic cases occurred in the Cambo and Hartburn districts and the remaining seventeen were scattered over the Colliery district..

Scarlet fever, chiefly in the Agricultural division, was reported from Netherwitton, Hartburn, Cresswell, Broomhill, Chevington Drift, Pegswood, Longhorsley, and from the vicinity of Morpeth.

A remarkable fact in connection with the cases of Enteric fever is that in six different parishes only a single case of the disease occurred and this speaks volumes for the careful and thorough manner in which disinfection of clothing, infective evacuations, privies, etc., must have been carried out. Measles occurred during January, June, July, August, September, November and December.

Whooping cough occurred during the months of January, February and August.

Factory and Workshop Act.—Six workshops were reported to be on the register during this year. The premises were all inspected, and no defects were found.

Improvements.—Thirty houses were erected and action was taken by the district council with a view to having Chevington Wood houses made fit for human habitation or closed. Considerable improvements were carried out at Woodside Farm Cottages and at Hartburn School. The medical officer draws attention to the greatly reduced death rate which immediately followed the improvements in sewerage and in the condition of dwelling houses in the Broomhill and Pegswood districts and to the very high death rate obtaining at North Seaton where many insanitary conditions existed. The main sewer at Longhorsley was extended. Urban powers were obtained for the contributory plan of Chevington East and the sanitary condition of the locality was greatly improved by paving the back streets. An application was made to the Local Government Board by the parish councils of Chevington East and Chevington West and the parish meeting of Hadstone for sanction to borrow £1,209 for the purpose of providing a Joint Burial Ground at Broomhill, and an Inquiry was, in consequence, held by one of the Inspectors of the Board.

Many improvements in drainage and privy accommodation were effected at Longhorsley, Middleton, Netherwitton, Cambo, Ulgham, Hepscott and other places. The sanitary condition of several cowsheds at Broomhill and other places were considerably improved.

Requirements.—Up to the end of the year the necessary repairs to Chevington Wood Houses had not been effected, though the above work has since been carried out; the water distribution was very inadequate and no drainage system existed. Many alterations were needed for the houses, drainage and privy accommodation at North Seaton. An improved sewerage and sewage disposal scheme was required for Widdrington Colliery and Bus Row and also attention to the drainage at Broomhill, Hepscott, Tritlington, Ulgham and Linton.

The medical officer draws attention to the necessity for adopting stricter regulations under the Dairies, Cowsheds, and Milkshops Order, with respect to the lighting and ventilation of cowsheds, etc., and to the necessity for improving the condition of many of the schools in the rural district mentioning in particular the Hartburn School.

Measures should be adopted for obviating the polluted condition previously reported of many watercourses in this district. Very little if any action has been taken to remedy the conditions complained of.

* 13·73 of the deaths of seventy-seven persons occurring in, but not belonging to the district be deducted, and if twelve deaths of residents occurring beyond the district be added.

NORHAM AND ISLANDSHIRES.

Medical Officer of Health, J. PAXTON, L.R.C.P., L.R.C.S.

Area, 47,072 acres; estimated population, 6,054; birth rate, 23.45; general death rate, 14.2; zymotic death rate, nil; infant mortality rate (per 1,000 births), 56.33; Phthisis death rate, 0.66; death rate from respiratory diseases, 1.15.

Of the above rates the birth rate was the same as for the preceding year, the zymotic death rate and the Phthisis death rate decreased by 0.16 and 0.33 respectively; the remaining rates increased as follows:—General death rate, 3.8; the infant mortality rate, 28.17; and the respiratory death rate, 0.16.

One hundred and forty-two births were registered during the year, and eighty-six deaths; of the latter eight were of children under one year, and thirty-nine of persons sixty-five years and upwards.

Twenty-two cases of infectious disease were notified as follows:—Diphtheria 3, Erysipelas 3, Scarlet fever 10, and Enteric fever 6.

Phthisis caused 4 deaths; respiratory diseases, 7; heart diseases, 22; accidents, 1; and premature birth, 5.

The population was estimated to have remained stationary since 1901.

The general death rate, which was the highest since 1903, was the third highest among rural districts; the infant mortality rate was the lowest recorded in the county. The Phthisis death rate was the same as that for the rural district of Bellingham, which rate was the lowest occurring among rural districts. The death rate from respiratory diseases was the second lowest in rural districts. No zymotic deaths occurred a statement which can only be made of two other sanitary areas in the county, viz., the urban district of Rothbury and the rural district of Bellingham.

The cases of infectious disease notified numbered fourteen less than during the previous year and among these no deaths occurred, nor did any death occur from zymotic disease.

Factory and Workshop Act.—The factories numbered four and the workshops eleven. No register of workshops appears to have been kept by the council; if this is the case the omission is directly contrary to Sec. 131 of the Factory and Workshop Act, which is as follows:—“Every district council shall keep a register of all workshops situate within their district.”

Improvements.—The water distribution at Ancroft village was considerably improved. At Norham the water pipes were thoroughly repaired and water was laid on to several premises.

Some improvements were commenced in the drainage at Goswick Farm cottages.

Some improvements were carried out at Duddo, Middle Ord, Allerdean Pit cottages, Fenham-le-Moor, etc.

Requirements.—Improvements in the sanitary condition of Norham West Mains and West Ord. Re-sewering of Norham village.

ROTHBURY.

Medical Officer of Health, F. BARROW, M.R.C.S., L.S.A.

Area, 166,904 acres; estimated population, 4,915; birth rate, 27.46; general death rate, *13.63; zymotic death rate, 0.2; infant mortality rate (per 1,000 births), 74.07; Phthisis death rate, 1.01; death rate from respiratory diseases, 1.22.

Of the above rates the zymotic death rate was the same as for the previous year, the Phthisis and respiratory death rates decreased by 0.01 and 0.63 respectively, and the remaining rates increased as follows:—Birth rate, 3.98; general death rate, 0.25; and the infant mortality rate, 38.99.

One hundred and thirty-five births were registered during the year, and sixty-seven deaths; of the latter ten were of children under one year and twenty-five of persons sixty-five years and upwards.

Nineteen cases of infectious disease were notified as follows:—Diphtheria 3, Erysipelas 6, Scarlet fever 9, and Enteric fever 1.

One death occurred from zymotic disease, viz:—Diphtheria.

Phthisis caused 5 deaths; respiratory diseases, 6; heart diseases, 11; accidents, 2; and premature birth, 1.

The medical officer divided his district into seven localities, for each of which he calculated the population, the births and deaths registered, the deaths under twelve months and the general death rate. The following table indicates the various rates which obtained in each of the seven sub-districts and also the attack rate per 1,000 of the population from notifiable infectious disease.

Sub-districts.	Popu- lation.	Births.		Deaths.		Infant deaths.		Zymotic disease.		Notification of infectious disease.	
		No.	Rate.	No.	Rate.	No.	Rate per 1,000 births.	No.	Rate.	No.	Rate.
Rothbury ...	1,450	44	30·3	16	11·0	6	136·3	0	0	8	5·5
Alwinton ...	860	17	19·7	14	16·2	1	58·8	0	0	1	1·1
Whittingham	770	14	18·1	15	19·4	0	0	0	0	0	0
Long Fram- lington	480	15	31·2	7	14·6	1	66·6	1	2·08	3	6·2
Alnham and Brinkham	365	7	19·1	3	8·2	0	0	0	0	4	1·0
Cambo and Elsdon	570	19	33·3	6	10·5	1	52·6	0	0	2	3·5
Longhorsley & Netherwitton	420	19	45·2	3	7·1	1	52·6	0	0	1	2·3
Whole district	4,915	135	27·2	64	13·0	10	74·0	1	0·2	19	3·8

The birth rates were under twenty per 1,000 population in the Alwinton, Whittingham, and Alnham & Brinkburn divisions and over thirty per 1,000 population in the remaining districts. The general death rate was lowest in the Longhorsley, Alnham and Brinkburn and Rothbury districts in the order named, and highest in the Whittingham, Alwinton, and Longframlington divisions. The infant mortality rate was 52·6 per 1,000 births in the Cambo and Elsdon, and also in the Longhorsley district, 58·8 in the Alwinton, 66·6 in the Longframlington, and 136·3 in the Rothbury district. In the Whittingham and Alnham divisions no deaths under twelve months occurred. Only one death was caused by zymotic disease; this was in the Longframlington district. No infectious cases were notified in the Whittingham division.

Diphtheria occurred at the Old Pit Cottages, Longframlington, and at Kirkhill Cottage.

Scarlet fever was notified from Blagdon Burn, Brinkburn, and Nunnykirk.

Factory and Workshop Act.—Eight workshops were on the register; no defects were discovered.

Mr. Bertram, of Cragside, again supplied particulars of the rainfall during the year, from which it appears that the driest months were September and April, and those with the highest rainfall were October and May, in the order named. The rainfall for the year was 36·13ins. which is about 2ins. above the average.

Improvements.—A water supply was laid on to the Isolation Hospital, to Trewitt Hall and to the farmhouse and cottages at Low Trewitt. At Snittermill the water supply was completed and a supply was brought to Wolvershield and to the keeper's house at Great Tosson. The supplies were improved at Whittle Farm. New water supplies were provided for the farmhouse and cottages at Newtown, also for Harbottle Village, the Hall and Manse, and for Low Farnham.

The drainage was greatly improved at Trewitt Hall, at the farmhouse Low Trewitt, at the farmhouse and cottages at High Trewitt, at Mr. Charlton's, Snitter, at South Cartington, Snitter Mill, Wolvershield, Great Tosson, Thropton, Netherton Burn Foot, Allerdene, Whittle farm, Newtown, Bankhead, Thropton Mains, High Farnham, Eslington Hall, Middle Barton and Elsdon.

Requirements.—The water supply and drainage were both unsatisfactory at Blagdon Burn, Lee Lane and Little Tosson. Water supplies were also needed at the Gate Cottages, Blagdon Burn, Holling Hill and the Hirst.

* 13.02 if the deaths of three non-residents occurring in the district be deducted.

TYNEMOUTH No. 1.

Medical Officer of Health, A. S. TAYLOR, L.R.C.P., L.R.C.S.

Area, 7,929 acres; estimated population, 11,302; birth rate, 26.01; general death rate, 11.94; zymotic death rate, 1.23; infant mortality rate, 122.44; Phthisis death rate, 1.3; death rate from respiratory diseases, 1.15.

With the exception of the Phthisis death rate, which has increased by 0.74, all the above rates have, in comparison with the previous year, decreased as follows:—Birth rate, 4.48; general death rate, 2.09; zymotic death rate, 0.42; infant mortality rate, 53.27; and the respiratory death rate, 0.79.

Two hundred and ninety-four births were registered during the year, and one hundred and thirty-five deaths, of the latter thirty-six were of children under one year, and twenty-nine of persons sixty-five years and upwards.

Exclusive of Chicken-pox, sixty-seven cases of infectious disease were notified as follows:—Diphtheria 5, Erysipelas 32, Scarlet fever 27, Enteric fever 2 and Puerperal fever 1.

Fourteen deaths occurred from zymotic disease, viz:—Whooping cough 4, and Diarrhœa 10.

Phthisis caused 15 deaths; respiratory diseases, 13; heart diseases, 10; accidents, 4; and premature birth, 7.

It was estimated that the population of the district had increased by one thousand and thirty-nine since the previous year.

The general death rate was the lowest recorded in rural districts.

The Phthisis death rate was the second highest and the respiratory death rate was the second lowest among the rural districts.

The medical officer divided his district into six localities, and gave for each sub-division the estimated population, the number of births and deaths registered and the deaths under one year; also for each district the number and nature of all cases of infectious disease, the months in which the notifications were received, the age period of all the persons attacked and the number removed to hospital.

He also added two further tables in one of which were indicated the number of deaths which occurred in each locality during each quarter of the year, and the age periods at which such deaths took place; in

the other table were given for each sub-district the population, births and deaths registered, birth and death rate, infant mortality rate, death rate under five years, the Phthisis, zymotic and respiratory death rates, the cases of infectious disease notified and the attack rate of the latter per 1,000 of population.

Sub-districts.	First Quarter.	Second Quarter.	Third Quarter.	Fourth Quarter.	Total.	Under 1 year.	1 and under 5.	5 and under 15.	15 and Under 25.	25 and under 65.	65 and upwards.	
Seaton Delaval...	12	14	16	16	58	12	3	1	1	27	14	Under 5 ... 15 } 58 5 and upwards 43 }
Hartley ...	2	3	7	4	16	3	1	1	1	3	7	Under 5 ... 4 } 16 5 and upwards 12 }
Horton ...	6	7	10	15	38	14	5	1	4	8	6	Under 5 ... 19 } 38 5 and upwards 19 }
Hartford West...	1	0	0	0	1	0	0	0	0	1	0	Under 5 ... 0 } 1 5 and upwards 1 }
Hartford East ...	8	2	4	6	20	6	1	2	4	6	1	Under 5 ... 7 } 20 5 and upwards 13 }
Bebside ...	0	1	1	0	2	1	1	0	0	0	0	Under 5 ... 2 } 2 5 and upwards 0 }
Whole district ...	29	27	38	41	135	36	11	5	10	45	28	Under 5 ... 47 } 135 5 and upwards 88 }

Sub-districts.	Population, Census 1901.	Population, estimated to middle of 1906.	Births registered in 1906.	Birth rate per 1,000 living.	Deaths registered in 1906.	Death rate per 1,000 living.	Infant mortality per 1,000 births.	Death rate under 5 years per 1,000 living.	Zymotic death rate per 1,000 living.	Phthisis death rate per 1,000 living.	Respiratory death rate per 1,000 living.	Notifications of infectious disease.	Attack rate per 1,000 population.
Seaton Delaval	4,902	5,518	139	25.17	58	10.51	96	2.7	1.0	0.7	0.9	*	*
Hartley ...	1,617	1,828	56	30.64	16	8.75	53	2.1	1.0	1.0	0.5	10	5.4
Horton ...	2,111	2,280	61	26.75	38	16.66	229	8.3	1.3	2.1	2.1	21	9.2
Hartford West	79	79	0	0	1	12.65	0	0	0	0	0	0	nil.
Hartford East	667	1,538	37	24.05	20	13.00	162	4.5	1.3	2.6	2.6	4	2.6
Bebside ...	58	59	1	16.94	2	33.89	1000	33.8	16.9	0	0	0	Nil.
Whole district	9,434	11,302	294	26.01	135	11.94	122	4.1	1.23	1.32	1.32	67	5.9

* Excluding Chicken-pox, which is not generally notifiable.

The increase in population was most marked in the Hartford East division; the birth rate was highest and the general death rate lowest in the Hartley district; the infant mortality rate was highest (229 per 1,000 births) in the Horton division (excluding Bebside where only one birth was registered); and in the Hartford West only one death from any cause occurred, and none from zymotic or from notifiable infectious diseases.

The cases of infectious disease (excluding Chicken-pox) numbered 79 less than during the previous year and the attack rate was 5.9 per 1,000 population as compared with 13.2 in 1905.

Of the five cases of Diphtheria notified three occurred in Horton (one in each of the months of February, September, and October) and two in Hartley during October.

Scarlet fever occurred in Seaton Delaval during the months of February, June, July, August and December, sixteen cases in all; in Hartley during April and July (one case in each month), in Horton in the months of July, August, September and November, eight cases in all, and at East Hartford in August one case.

The two cases of Enteric fever occurred at East Hartford, one in the month of August and one in October. Only one case of Puerperal fever occurred (at Hartley).

The cases of Erysipelas occurred at the following places:—Seaton Delaval, one in each of the months of February, March, April, July and November, two in May, two in June, four in September, and three in October; at Hartley—five cases—one in each of the following months, March, April, June, August and December; at Horton—ten cases—one in each of the months of January, March, August, October and November, three cases in February, and two in September; and at East Hartford—one case in November.

No deaths occurred from any of the four diseases last mentioned, and the cases notified during 1906 numbered sixty-seven as compared with one hundred and thirty-six during the previous year (excluding Chicken-pox in each year).

A few cases of Measles occurred during the months of May, June and October, and Whooping cough was prevalent during July, August and September. Chicken-pox (sixty-seven cases) was present in the Seaton Delaval division during the whole year with the exception of the first and the last months; twenty-one cases occurred in the Hartley district; twelve cases at East Hartford, and four in Horton.

Factory and Workshop Act.—One factory and fourteen workshops were registered. They were all inspected and no defects were discovered.

Improvements.—One hundred and forty-eight houses were built. New streets were made up at Avenue Head and Seaton Delaval.

An eighteen inch pipe sewer three hundred and thirty yards long was laid at New Hartley; at Wheatridge Row and at Double Row, Seaton Delaval, pipe drains with trapped gulleys were laid and connected to the sewer.

The following extensions of the Newcastle & Gateshead Water Co.'s mains were made during the year under consideration:—Plessey Checks to Hartford Colliery Wagonway, and to High Horton Farm, and High Horton Farm to Plessey Wagonway.

A Local Government Board Inquiry was held on the application of the Earsdon Urban District Council for sanction to borrow £5,000 for works of sewerage including the execution of works in the township of Hartley in this district.

Requirements.—Ashpits were, at the end of the year, still needed for several rows of houses at Seaton Delaval. (Some have since been provided). Water supplies were still required for Redhouse Farm and New Hartley Station. Alterations to all back to back and other houses having no through ventilation, especially at Seaton Delaval and Seaton Sluice. Provision of pipe sewers with trapped gulleys in place of uneven surface channels. A steam disinfecter for the isolation hospital.

Means should be adopted for obviating the polluted condition previously reported of watercourses in this district.

TYNEMOUTH No. 2.

Medical Officer of Health, R. BUTTERCASE, M.D., C.M.

Area, 7,240 acres; estimated population, 13,870; birth rate, 35.32; general death rate, *15.28; zymotic death rate, 2.3; infant mortality rate (per 1,000 births), 157.14; Phthisis death rate, 0.93; death rate from respiratory diseases, 2.01.

All the above rates, with the exception of the Phthisis death rate, which is 0.17 lower than for the previous year, have increased as follows:—Birth rate, 0.94; general death rate, 1.36; zymotic death rate, 0.46; infant mortality rate, 7.25; and the respiratory death rate, 0.25.

Four hundred and ninety births were registered during the year, and two hundred and twelve deaths, of the latter seventy-seven were of children under one year, and forty-three of persons sixty-five years and upwards.

Exclusive of Chicken-pox ninety-seven cases of infectious disease were notified as follows:—Diphtheria 9, Erysipelas 17, Scarlet fever 67, and Enteric fever 4.

Thirty-two deaths occurred from zymotic disease, viz:—Measles 1, Whooping cough 7, and Diarrhœa 24.

Phthisis caused 13 deaths; respiratory diseases, 28; heart diseases, 14; accidents, 7; and premature birth, 19.

It was estimated that the population of this district had increased by 290 since the previous year, the bulk of the increase being in the Longbenton division.

The birth rate was the highest recorded in rural districts; the general death rate was the 2nd highest among rural districts; the infant mortality rate, the death rate from zymotic diseases and also from respiratory diseases were each the highest recorded in rural districts.

The medical officer divided his district into three localities and gave for each sub-division the estimated population, the number and nature of all cases of infectious disease, the months in which the notifications were received, the age period of all persons attacked and the number removed to hospital.

He also added other tables, in one of which were indicated the number of deaths which occurred in each locality during each quarter of the year and the age periods at which such deaths took place; in another were given for each sub-district the population, the births and deaths registered, the general, the zymotic, the Phthisis and the respiratory death rates, the infant mortality rate per 1,000 births, and the death rate under five years, the number of cases of notifiable infectious disease and the attack rate of the latter per 1,000 population.

Sub-districts.	First Quarter.	Second Quarter.	Third Quarter.	Fourth Quarter.	Total.	Under 1 year.	1 and under 5.	5 and under 15.	15 and under 25.	25 and under 65.	65 and upwards.	
Longbenton ...	39	22	44	33	138	48	20	2	2	38	28	Under 5 ... 68 } 5 and upwards 70 } 138
Burradon and Camperdown }	9	8	10	9	36	16	4	0	3	8	5	Under 5 ... 20 } 5 and upwards 16 } 36
Willington and Rosehill }	9	12	3	14	38	12	5	3	2	9	7	Under 5 ... 17 } 5 and upwards 21 } 38
Whole District...	57	42	57	56	212	76	29	5	7	55	40	Under 5 ... 105 } 5 and upwards 107 } 212

Sub-districts.	Population, Census, 1901.	Population, estimate to middle of 1906.	Births regis- tered in 1906.	Birth rate per 1,000 living.	Deaths regis- tered in 1906.	Death rate per 1,000 living.	Infant mor- tality rate per 1,000 births.	Zymotic death rate per 1,000 living.	Death rate under 5 years. per 1,000 living.	Thithis death rate per 1,000 living.	Respiratory death rate per 1,000 living.	Notification of infectious disease.	Attack rate per 1,000 of population.
Longbenton	7,148	9,260	315	34.0	138	14.9	154.0	2.5	7.3	0.75	2.26	*	*
Burradon and Camperdown	2,157	2,300	86	37.4	36	15.6	186.0	0.86	8.6	1.30	2.27	8.0	3.4
Willington & Rosehill	1,999	2,310	89	38.5	38	16.4	134.8	2.5	7.3	1.29	0.86	52.0	22.5
Whole district	11,304	13,870	490	35.3	212	15.3	155.01	2.3	7.5	0.93	15.28	97.0	6.9

* Excluding Chicken-pox which is not generally notifiable.

From the above table it appears that the birth rate was highest in the Willington and lowest in the Longbenton districts; that the general death rate varied very little in the different sub-divisions and that the infant mortality rate was considerably the highest in the Burradon and Camperdown division, and lowest in the Willington and Rosehill district.

The attack rate from notifiable infectious diseases per 1,000 population was very much the highest in the Willington and Rosehill division and practically identical in the other two sub-districts.

The cases of infectious diseases (excluding Chicken-pox) showed a decrease of forty compared with those notified during the previous year; the attack rate per 1,000 population was 6.9 while during the previous year it was 10 per 1,000 population. Scarlet fever was notified during every month of the year. Fifty cases occurred in the Willington and Rosehill divisions and seventeen in the Longbenton district; no cases of the above occurred in the Burradon and Camperdown sub-division. Of the nine cases of Diphtheria seven were notified in the Longbenton and one in each of the other divisions. All the cases (4) of Enteric fever occurred in the Longbenton district as did nine of the seventeen cases of Erysipelas. No deaths resulted from Scarlet fever, Diphtheria or Enteric fever. A few cases of Measles occurred in the months of April, May and August, and a few of Whooping cough during May, July, August and September.

Cases of Chicken-pox occurred during every month of the year with the exception of September. Of the sixty-eight cases fifty-four were notified in the Longbenton and fourteen in the Burradon districts.

Influenza was notified during the months of January, February, March, April, October and December.

One death resulted from Measles, seven from Whooping cough, and none from Influenza.

Factory and Workshop Act.—Seven factories and twenty-two workshops were on the register; only one defect was discovered.

Improvements.—About fifty houses were erected during the year. Ventilation of sewers at Longbenton and Burradon was improved by fixing three Webb's extractor gas lamps.

A considerable number of privy ashpits at Camperdown were replaced by ash closets.

Extensions of the Newcastle & Gateshead Water Co.'s mains were made at St. Margaret's Avenue, Benton; Hazlerigg Estate, Camperdown; Tynedale Terrace, Benton; Longbenton Estate, Forest Hall and Holystone.

Requirements.—A sewerage and sewage disposal scheme for Bigge's Main and Little Benton, was still uncommenced. Water supplies for Haslam's cottages, Forest Hall, and for Dickie Pit were still unprovided. A steam disinfecter for the joint hospital was also still unprovided.

The conversion of the back to back houses still in evidence in this district into dwellings with through ventilation.

Measures should be adopted for obviating the pollution, previously reported, of watercourses from places within this district.

* 15·57 if four deaths of residents occurring beyond the district be added.

TABLE OF VITAL STATISTICS, &c., 1906.

a 17.9% if the deaths of 9 non-residents occurring within the district be deducted,
and if the deaths of 6 residents occurring outside the district be added.
b 18.1 if the deaths of 19 non-residents in the district be deducted, and if the death
of one residents occurring without the district be added.
c 14.7 if the deaths of 11 non-residents occurring within the district be deducted.

d 18-08 if the deaths of 8 non-residents occurring within the district be deducted.
e 14-08 if the death of 11 non-residents occurring in the district be deducted, and if
4 deaths of residents occurring without the district be added.
f 16-64 if 3 deaths of non-residents occurring in the district be deducted
g 10-88 if the deaths of 88 persons not belonging to the district be deducted.

h. 1527 if the deaths of 13 non-resident occurring in the district be deducted
i. 1417 if one death of a stranger occurring in the district be deducted.
1689 if one death of a stranger occurring in the district be deducted, and if
5 deaths of residents occurring beyond the district be added.
* 1888 if the deaths of 70 non-residents occurring in the district be deducted, and if
3 deaths of residents occurring without the district be added.

A 13 17 if the deaths of 4 residents occurring without the district be added.
B 13 45 if the deaths of 11 residents occurring beyond the district be added.
C 13 73 if 77 deaths of persons not belonging to the district be deducted, and if 12 deaths of residents occurring outside of the district be added.
D 13 02 if the deaths of 3 strangers occurring in the district be deducted.
E 15 57 if the deaths of 4 residents occurring without the district be added.

